

MANUFACTURERS' RECORD

A Weekly Southern Industrial and Hardware Newspaper.

VOL. 9. No. 5.
WEEKLY.

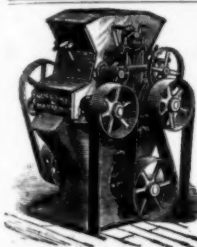
BALTIMORE, MARCH 13, 1886.

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Manufacturers' Mill Supplies
Of Every Description.



Milling Outfits for Flour and Meal.

WE MAKE ROLLS AND PORTABLE MILLS COMPLETE.

Manufactory Established in 1851.

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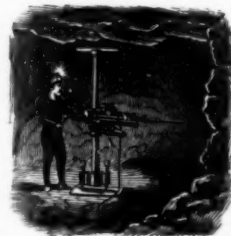
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"STRAIGHT LINE"

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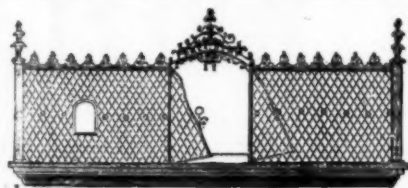
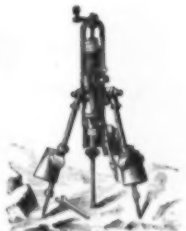
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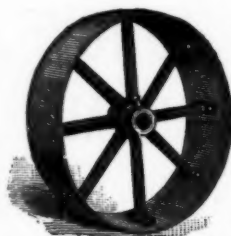
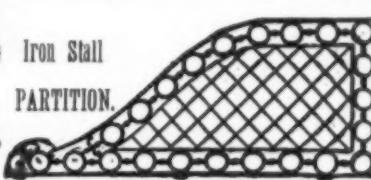


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DETROIT, MICHIGAN.

Office Railings & Partitions, Stable Fittings, Builders' Iron Work, &c.

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THE MEDART PATENT WROUGHT RIM PULLEY.

OVER 300,000 NOW IN USE. THE LIGHTEST, STRONGEST, BEST BALANCED and CHEAPEST in the WORLD.

Whole Pulleys from 9 inches to 120 inches diameter. Split Pulleys from 12 inches to 120 inches diameter. All widths of face up to 36 inches, crowning or straight, with single, double or triple sets of arms. Also Tight and Loose Pulleys. Absolute satisfaction guaranteed.

SHAFTING, HANGERS, COUPLINGS, &c.

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Stores: 99 to 101 W. Second St., Cincinnati.

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Manufacturers of Shultz Patent Fulled Leather Belting, Lace and Picker Leather.

OUR BELTING is made of Leather, tanned on the surfaces only; the interior (which is the fibre and strength of the hide) is not tanned, but Rawhide fulled and softened by our patent process. Our belting is more pliable, and hugs the pulley better and transmits more power than any other Belt. It does not pull out at the laceholes or rivets. It stretches less than any other Belt. It works equally well for the largest Driving Belts or for the fastest running machinery and smallest pulleys. OUR LACE LEATHER is made of Rawhide, by our patent process, without any tanning and is stronger and will wear better than any other. WE ALSO MAKE THE BEST PICKER LEATHER AND BELT GREASE IN THE COUNTRY. Satisfaction guaranteed.

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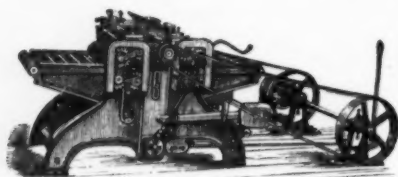
3002 Chestnut St., PHILADELPHIA.

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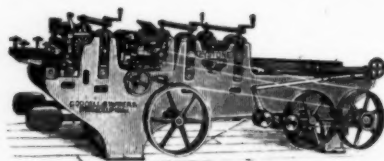
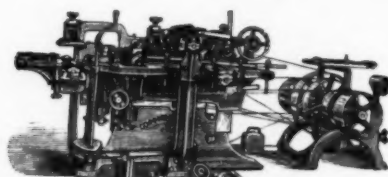
22 Warren St., NEW YORK.

—MANUFACTURERS OF—

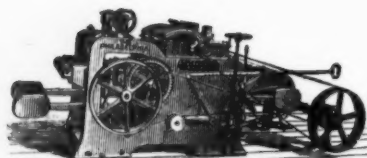
IMPROVED WOOD-WORKING MACHINERY.



No. 2 Single Surfacer.

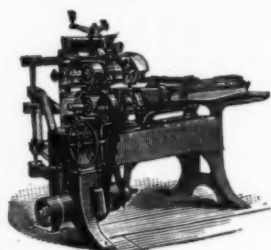
Keystone Flooring Machine,
Surfacing 100 lineal feet per minute.

9-inch Moulder.

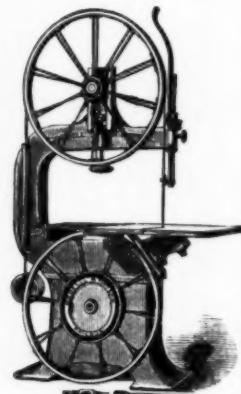


The "Philadelphia" Endless Bed D. S.

"KEYSTONE" FLOORING MACHINE,



Modern Tenoning Machine.



42-inch Band Saw.

Of which over TWO HUNDRED have been sold during the past Two Years.

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Every Machine is thoroughly
tested before leaving
the Works.

GOODELL & WATERS, 3002 CHESTNUT ST.,
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All our machines are war-
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Founders and Machinists.

—POOLE & HUNT'S—

LEFFEL * TURBINE WATER * WHEEL,

Prices as Low as any other First-Class Wheel.



Machine * Moulded

MILL GEARING.

Our plant for the production of MACHINE-
MOULDED MILL GEARING is une-
qualed in the country, and we are prepared
to fill orders with dispatch and at GREAT
SAVING IN COST OF PATTERNS.

Shafting, Pulleys, HANGERS, PEDESTALS.

SHAFTING, PULLEYS, HANGERS
and COUPLINGS, of latest and most ap-
proved designs.N. B.—Shipping facilities the best in all
directions.

Send for Pamphlet. Send for Price-List.

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ing Mailed on
Application.

—POOLE & HUNT, BALTIMORE, MD.—

AMERICAN SUPPLY COMPANY,

Formerly Myron Fish & Co., of Valley Falls, R. I., and Kendrick Loom Harness Co., of Providence, R. I.

—MANUFACTURERS OF—

LOOM HARNESS AND REEDS,

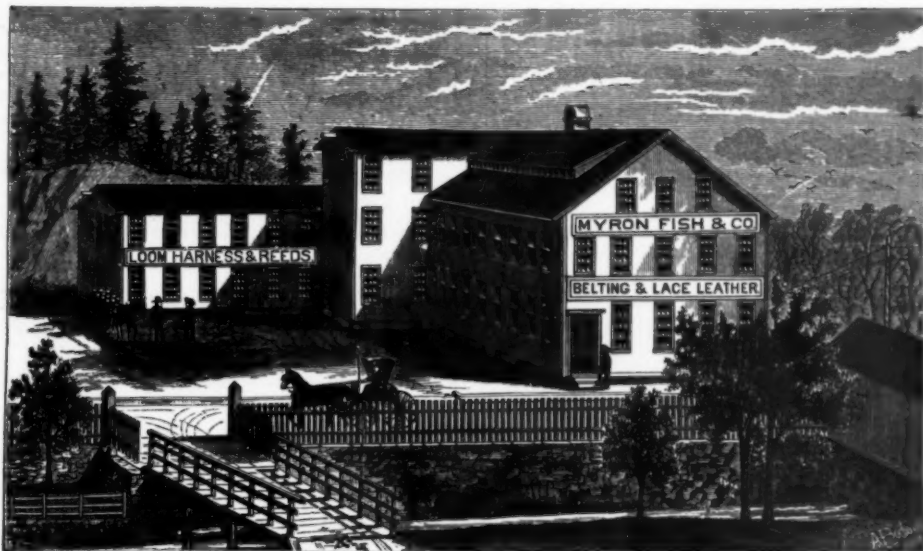
Oak Belting, Lace and Picker Leather, and Dealers in Supplies for Cotton, Woolen and Silk Mills.

Agents for Joseph Neone's Sons'
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WE HAVE
Unequalled Facilities for Furnishing
Shuttles & Mangle Frames,
WIRE HEDDLES and WIRE GOODS
Of all Descriptions.

—Special Notice to Worsted and Silk Mills.—

We Manufacture both Worsted and Cotton Machine-Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a Full Line of Supplies for Jacquard Looms.

Office and Salesrooms, 10 Exchange Place, Providence, R. I.

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PROVIDENCE and VALLEY FALLS, R. I.

A. D. LOCKWOOD, Pres. JOHN KENDRICK, Vice-Pres. MYRON FISH, Treas. JOHN A. CARTER, Sec. JOSEPH H. KENDRICK, Gen'l Agent.

Wiswell Ore Pulverizer and Amalgamator Combined.

The cost of this Mill is much less than any other machine of sufficient capacity to do the same amount of work.

It requires less power to run it, (10-horse being sufficient.)

The wear and tear of the Mill is much less than any other Quartz Mill doing the same amount of work, and the quality of the work done by it is greatly superior to work done in any other Quartz Mill now in use.

It crushes to a uniform fineness and makes no slimes, so that no sizing is required for concentration.

The Mill is equally well adapted to crushing and pulverizing of all classes of ores, either for amalgamation or concentration, and will pulverize and amalgamate from one-half to one ton per hour, according to character of ore and fineness of screens.

With ordinary care there is no loss of mercury by flouing, and consequent loss of gold, as in most other Mills where mercury is used in the Mill.

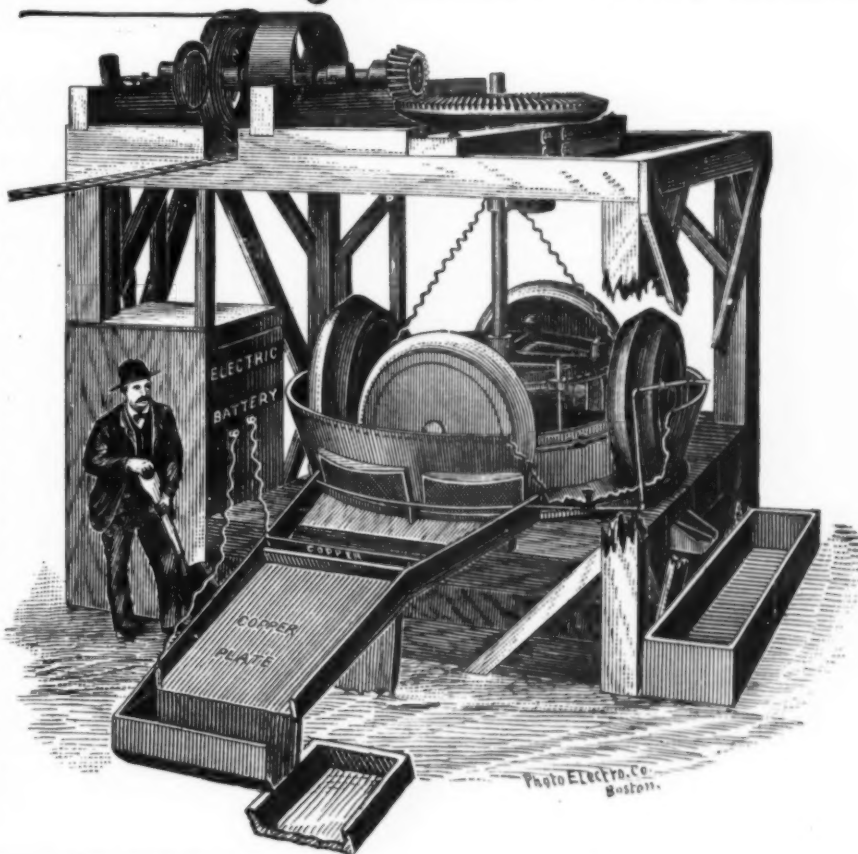
Amalgamation is carried on in the same operation with the crushing. The mercury is placed in the Mill in quantities varying from 10 to 40 pounds.

The application of electricity to the Mill for the purpose of cleaning and keeping the mercury alive has been to a very large extent superseded by the invention and introduction of the Mercury Trap in the Mill for the purpose of drawing off the mercury when charged with gold or on the slightest indication of flouing. By this ingenious device the mercury can be changed as often as desired without loss of time in either crushing or amalgamating. By opening this Trap the amalgam is discharged from the Mill in three minutes, and clean mercury introduced in its place.

To those familiar with running a Gold Mill this latter advantage will be greatly appreciated; in fact, it gives the mill-man full control of his work.

This Mill has been on exhibition at the foundry of Messrs. Bisbee & Endicott, at Chelsea, Mass., for the past 18 months, a good part of the time in active operation, and we have treated the most rebellious ores from many mining districts with most satisfactory results to the parties concerned.

The past year we have sold many Mills, which may be found in Michigan, North Carolina, Dakota, Montana, Idaho, Colorado, California, Mexico, Nova Scotia, etc. All those in operation are giving the most perfect satisfaction, as testimony will prove, and we will take pleasure in referring to any one of these on application.



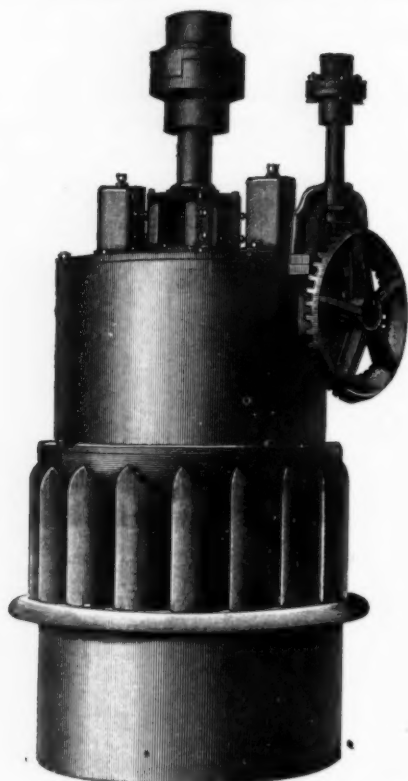
We Furnish a Complete Mill for \$2,500, Delivered on Board Cars.

WISWELL ELECTRIC MINING MACHINERY COMPY,

A. A. REEVE, Treasurer.

4 POST-OFFICE SQUARE, BOSTON.

THE "HERCULES"



→ GET THE BEST. ←

A good Water Wheel increases the value of your whole plant.

Get the best at first and avoid the expense and delay of changing wheels.

A good wheel will serve you well for twenty years.

The best is the cheapest,—it does more work, lasts longer, and costs no more for gears and setting than a common wheel.

The HERCULES gives the most power for its size, and the highest average percentage from full to one-half gate, of any wheel ever made.

SEND FOR CATALOGUE NO. 3.

HOLYOKE MACHINE CO., WORCESTER, MASS.

Wheels Now in Use in Holyoke, February 1st, 1885.

Name of Wheel.	Number.	Horse-Power Furnished.
Hercules.....	53	10,576
Boyden.....	38	5,398
American.....	10	825
Tyler.....	10	311
Hunt, Waite & Flint.....	7	375
Riflon.....	6	440
Jonval.....	4	655
Swain.....	1	160
New American.....	1	65
Aousten.....	1	75
Victor.....	2	150
Total.....	133	19,030

EAGLE & PHENIX MANUFACTURING CO.,

COLUMBUS, GA., Feb. 25, 1885.

HOLYOKE MACHINE CO., STEPHEN HOLMAN, Treas.

Dear Sirs—Within the past four years I have ordered four "Hercules" wheels, all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a "Hercules" wheel has been added each time a new wheel was wanted. In Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The "Hercules" is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal, mechanically. It is all that can be desired in economy of water. In fact, it is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon. Yours truly, JOHN HILL.

CONNECTICUT RIVER PULP MILL.,

HOLYOKE MACHINE CO.:

HOLYOKE MASS., November 24, 1884.

We are now using 22 "Hercules" wheels, under heads from 12 to 40 feet, and they have always given satisfaction. We have used a variety of Turbines, but where economy in the use of water is required nothing equals the "Hercules." In every respect they are first class.

D. H. & J. C. NEWTON.

GEORGE R. DICKINSON PAPER CO.,

HOLYOKE MACHINE CO.:

HOLYOKE, MASS., December 17, 1884.

Gentlemen—We started our mill with three "Hercules" wheels. We raise the gates Monday morning and close them Saturday night. They have never cost us a cent for repairs nor caused us a moment's delay. We want nothing better. Yours very truly, GEORGE R. DICKINSON, Treas.



Wood Split Pulleys.



MILBURN

Gin & Machine Co.

MEMPHIS, TENN., U. S. A.

MANUFACTURERS OF

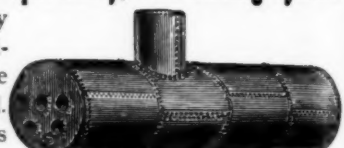
STEAM ENGINES, BOILERS,

(Made by the Tweedle system of hydraulic riveting),

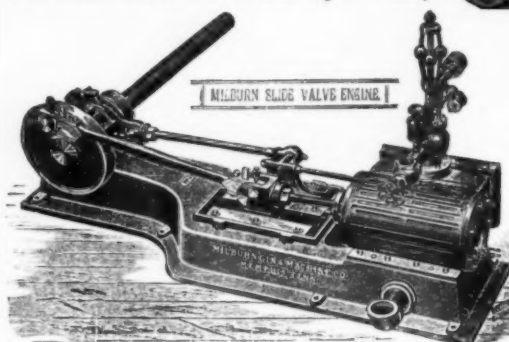
Cotton Gins, Gin Feeders and Condensers,

And the Celebrated "INDEPENDENCE" Wood Split Pulley, with Bushing System.

The best and lightest Pulley made. Every one guaranteed. Send for catalogue, testimonials and price-lists. We have the largest works of the kind in the world. Will send one of our Wood Split Pulleys



to any responsible party, for thirty days' trial, free of charge, if it fails to meet our warranty.



MILBURN SLIDE VALVE ENGINE

Milburn Gin & Machine Co.

Send for Illustrated Circular and Price-List.

E. W. BLISS CO.

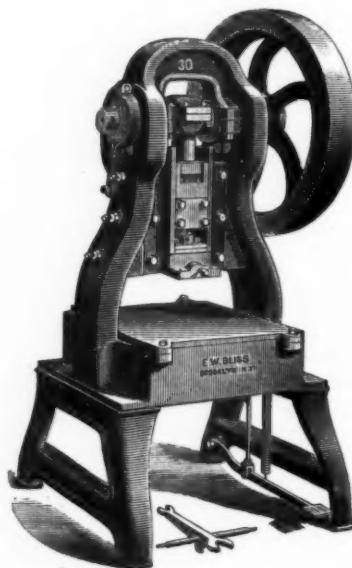
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Presses, Dies,

—AND—

SPECIAL MACHINERY

FOR WORKING SHEET METAL.



Double Seaming Machines, CIRCULAR SHEARS, Squaring Shears, Can Making Machinery, &c.

Works: Plymouth, Pearl & John Sts. Office, 17 Adams St., BROOKLYN, N. Y.

C. E. RILEY.

WM. B. GRAY.

RILEY & GRAY,

—SUCCESSORS TO—

HOWARD & BULLOUGH, & RILEY,

SOLE IMPORTERS OF

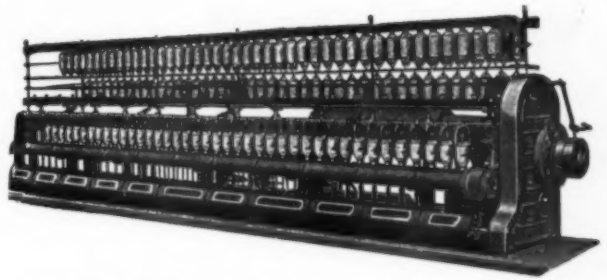
HOWARD & BULLOUGH'S

Cotton Machinery.

ALSO, IMPORTERS OF

Woolen and Worsted Machinery, Card Clothing, Etc.

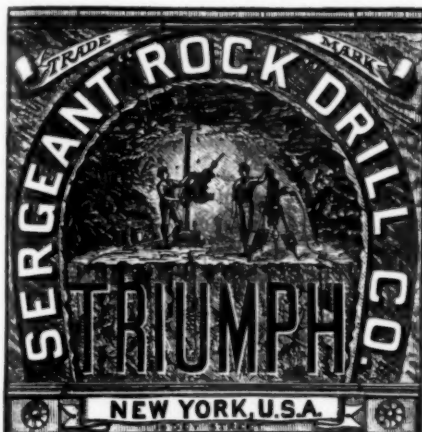
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19 PEARL ST., BOSTON, MASS.**GANDY'S PATENT MACHINE BELTING**

GOLD MEDAL AWARDED NEW ORLEANS, 1885, FOR BEST RUNNING BELTS.

*Made PERFECTLY Straight and any Length without Joints.**For Main Driving it is the Best. Much Cheaper Than Leather.*

MANUFACTURED BY

THE GANDY BELTING CO., BALTIMORE, MD.**THE "TRIUMPH" ROCK DRILL**
and NORWALK AIR COMPRESSOR

Are the Latest and Most Improved Machines that were ever designed for the work required of them. They are the Most Simple, Economical and Effective now known, and will satisfy all Purchasers.

Boilers, Steam Pumps, Hoisting Engines, Pipe and Fittings, Electric

Blasting Apparatus, Powder, Caps and Fuse, Steam and Air Hose, Wire Rope,

—And General Mining and Contractors' Supplies.—

Complete Specifications for Rock Drilling and Mining Plants Furnished on Application.

SERGEANT DRILL CO., 16 Dev Street, New York, U. S. A.**MECKLENBURG IRON WORKS,** *Charlotte, N. C.*BUILDERS OF { *ENGINES and BOILERS, STAMP MILLS,*
*CRUSHERS, Circular Saw and Grist Mills, CORNISH PUMPS,***MINING MACHINERY.**

Cotton Presses, Water Wheels, Shafting and General Machinery.

JOHN WILKES, Manager.

BRIDGEPORT BRASS CO., *19 Murray Street, NEW YORK.*

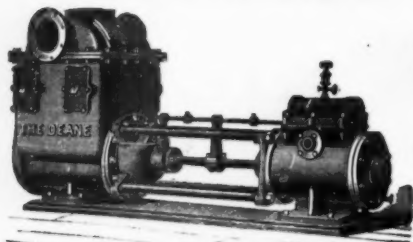
—MANUFACTURERS OF—

Sheet Brass, Seamless & Brazed Brass AND Copper Tubing*BRASS and COPPER WIRE, and RODS,*Gas and Kerosene Burners and Trimmings. **== The Celebrated Leader Burner a Specialty.**

ELECTRIC COPPER WIRES, Plain and Covered. Particular Attention given to Cutting Blanks and Metals to Order.

THE DEANE STEAM PUMP CO., HOLYOKE, MASS.

MANUFACTURE



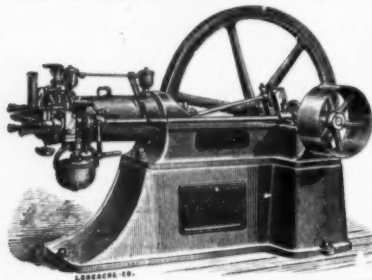
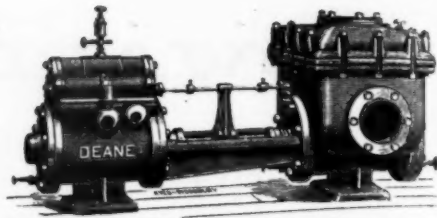
Every variety of Pumping Machinery

VACUUM PUMPS FOR SUGAR WORK, ETC.

IRRIGATION PUMPS ARE SPECIALTIES.

Water Works Pumping Engines for Cities and Towns.

SEND FOR NEW ILLUSTRATED CATALOGUE No. 22.



Over 14,000 in Use.

Otto Gas Engine

20 to 70 per ct. less Gas consumption than ANY other ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. UNFURNISHED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-horse power.

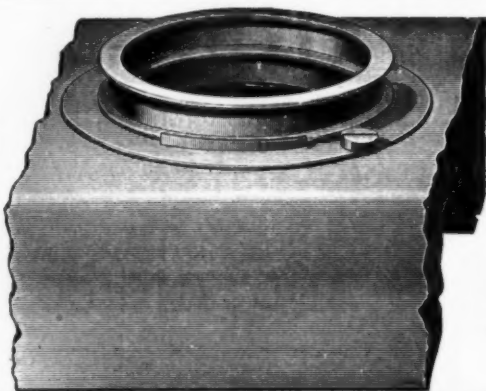
Branch Office, 214 Randolph St., Chicago.

SCHLEICHER, SCHUMM & CO., N. E. cor. 33d and Walnut Sts., Philadelphia.

DOUBLE ADJUSTABLE Spinning Rings.

GEORGE DRAPER & SONS,
HOPEDALE, MASS.

TELEGRAPH ADDRESS AND RAILROAD STATION,
MILFORD MASS.



Number of Rings sold.	Number of Rings sold for repairs.
1869... 6,025	
1870... 20,258	
1871... 38,648	
1872... 94,204	12
1873... 117,301	
1874... 168,382	500
1875... 223,924	963
1876... 185,319	947
1877... 270,811	946
1878... 215,214	3,309
1879... 336,918	8,007
1880... 567,860	11,264
1881... 659,730	8,974
1882... 636,715	22,515
1883... 416,500	21,689
1884... 210,869	25,105
1885, 9 mos. 212,050	22,373
Total number sold... 4,489,794	126,604
Total number in use 4,363,190.	

The great durability of our Rings is shown by the fact that we have more rings in use over twelve years old than all we have sold for repairs.

This statement shows unmistakably that a mill once supplied with our rings need think but little of the cost of repairs. As the number sold for repairs is an average of about twenty per cent. of the number sold the tenth year before, the average life of our rings will be at least twelve years.

Do not make the mistake of ordering new frames without specifying Double and Adjustable Rings. While they cost more to begin with, they are much the cheapest in the end, on account of their uniform excellent quality and unparalleled durability.

As an encouragement to use none but the best of Rings, we reduced the price on and after the first day of January, 1885, of those 1 1/2 inches or less in diameter, without holders and screws, to be used only to take the place of our rings worn out, to 12 cents each.

DICKSON MANUFACTURING CO.

MAKERS OF CABLE MACHINERY FOR NEW YORK & BROOKLYN BRIDGE.

LOCOMOTIVES FOR ALL KINDS OF SERVICE.

BLAST ENGINES FOR IRON & STEEL WORKS.

BESSEMER STEEL PLANT MACHINERY.

SPRING PLATE STEEL TIRED CAR WHEELS. CAST CAR WHEELS. MINE CAR WHEELS.

DERRICK & WRECKING CARS.

STATIONARY ENGINES. HORIZONTAL & VERTICAL. SINGLE & IN PAIRS.

HIGH PRESSURE. CONDENSING & COMPOUND. HOISTING ENGINES.

CARRIAGES. DRUMS & MACHINERY.

COLLIERY MACHINERY.

COAL & PHOSPHATE BREAKERS WITH PATENT REMOVABLE STEEL TEETH.

SCREENS & VENTILATING FANS.

PUMPING ENGINES OF HIGH DUTY TYPES.

CORNISH PUMPING ENGINES. PUMPS. VALVES.

BOILERS OF EVERY KIND & SIZE.

HANGERS. SHAFTING & PULLEYS.

GEARS BOTH CAST & CUT.

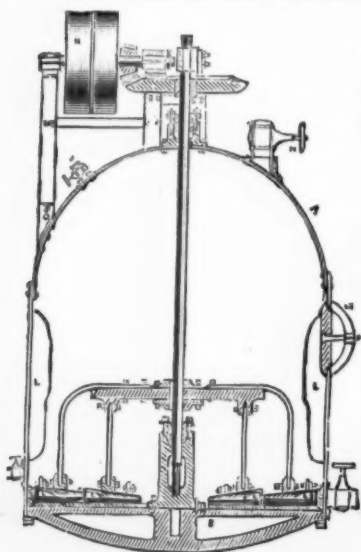
HEAVY MACHINERY OF ALL KINDS.

NEW YORK OFFICE 112 LIBERTY ST.

GENERAL OFFICE SCRANTON PA.

SOLE AMERICAN BUILDERS OF THE STOCKPORT GAS ENGINE, AND THE LIGHTFOOT DRY AIR REFRIGERATING ENGINE.

H. M. BOIES, PRES. • W. H. PERKINS, SECY & TREAS. • S. BROADBENT, GENL SUPT. • C. W. WATTS, M. E. • D. LEAVITT, JR., D. M. E. CONSULTING ENGR. • GEO. B. ROSS, AGENT IN N. Y.



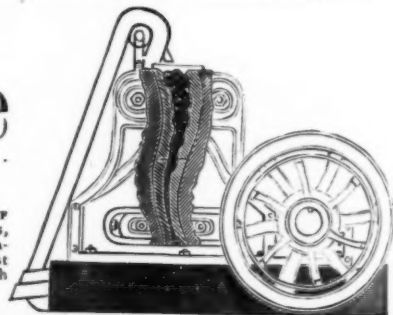
THE MEECH GOLD AND SILVER ORE

Disintegrating Machine

The Only Method for Preparing the Ore for Amalgamation.

Disintegrating, Decomposing and Desulphurizing the ore under a HIGH TEMPERATURE and PRESSURE OF STEAM HEAT, with chemical action and attrition, dissolves and breaks up the chemical combination in the ores, individualizing, cleaning and separating the atoms of metal from the gangue, perfectly freeing them for amalgamation in combination with the MEECH AMALGAMATION MACHINE and process, (being the greatest combination of Amalgamation known,) will successfully extract 90 per cent. of the metal from rebellious ores, such as Sulphurets, Sulphides, Chlorides, Bromides, Oxides, Tellurides, &c.

We desire business correspondents in every mining district in the United States.



THE MEECH CRUSHER AND PULVERIZER.

This Machine will CRUSH AND PULVERIZE GOLD AND SILVER ORES to 20, 40, and 60 mesh fine, and from 20, 40 and 60 tons per day. The principles of this machine, making it superior to all others, are the peculiar concave and convex shape of the jaws, with concave and convex projections, which breaks, crumbles, stamps and pulverizes the ore with less power, wear and tear, than any other machine. MANUFACTURED BY

MEECH & CO., Cleveland, Ohio.

We will contract to erect the Meech Plant of Mining Machinery for successfully treating all grades of gold and silver ore.

BALTIMORE Manufacturers' Record.

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Secretary and General Manager.

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—BALTIMORE—

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BALTIMORE, MARCH 13, 1886.

A World's Fair Project.

Among the many suggestions that have been made during the last year or two, regarding the holding of a world's fair in 1892, to commemorate the 400th anniversary of the discovery of America, the best is that this fair or exhibition shall be held in Washington, under the management of the United States government. That the time will be most appropriate for holding a fair that shall surpass in magnitude and grandeur all that have ever yet been held there can be no question. It is everywhere admitted that this event should be celebrated by a world's fair, and the only question has been as to where it should be held. On this point there ought to be no doubt. Washington, as the capital of the country, ought to be the place. It is the only city in which the fair could be held without exciting local jealousies. St. Louis and Chicago have been agitating the subject, but neither place is suitable, nor is there any other place than Washington that meets the requirements. In the first place, it ought to be under the management of the national government; it ought to be planned and carried out on a scale worthy of the event that it would be designed to commemorate; it ought to be at a point where there could be no possibility of city or State jealousies, and Washington is the only place that, in view of these facts, would be suitable. The educating influences of a great world's fair would far outweigh the cost. It would be money well spent, and the whole country would reap the benefits.

Diversified Agriculture in the South.

The Inter-State Agricultural Convention at Jackson, Tenn., last week adopted resolutions urging Southern farmers to plant less cotton and to devote more attention to diversified agriculture. After recounting the prospects for very low prices for the next crop, and which, by the way, seem to be fully borne out by an article published in this issue of the MANUFACTURERS' RECORD, it is said: "In view of these conditions, so ruinous of our interests, we appeal to the intelligence of the cotton-grower and ask him can he pay the expense of farming and make even a bare living by selling cotton at 7½ cents per pound? The answer is already given in the negative. The next question following upon this is what is the remedy? We answer diversified crops. Plant one-third less cotton and more grain and grasses. Raise hogs and hominy. Let cotton be a surplus crop. Instead of producing six and a half million bales, make only four and a half million bales. By this means we may realize the long price of our labor, and at the same time live independently of the sharks, who profit by our losses."

It is not so much the "sharks," which term is doubtless intended to designate speculators, that are responsible for low prices as the long continued dullness in trade, that is now passing away, and the overproduction of cotton. The supply of cotton has been in excess of the world's requirements, and, of course, prices have declined.

The advice to vary their crops is what the MANUFACTURERS' RECORD and all papers devoted to Southern interests have persistently urged. It is good advice, and, if followed, will be of great benefit to the whole South. And yet, as we have repeatedly shown, it will only be practicable to its full extent when the manufacturing interests of the South have been so developed as to create a home market for all the products of the farm. Corn and hogs alone will not redeem Southern agricultural interests from their present bad financial condition. They will help it is true, but there must be a market for the widest diversity of farm products.

For the fruits and vegetables, the poultry and eggs, the milk and butter, there must be a ready sale at profitable figures before the general prosperity of Southern farmers can be assured. It is this that has made the farmers of Pennsylvania and other manufacturing States so prosperous, and it is this, and this alone, that will bring prosperity to Southern farming interests. This home market is already being rapidly developed in the South. Manufacturing, mining and railroad enterprises are springing up all over that section, and unless the now rapidly growing industries are hampered and restricted by tariff reductions, the South will soon become more prosperous than the most enthusiastic prophets now dream of.

The Tariff Bill.

We are not quite certain but that Mr. Morrison did a good thing for the protection sentiment of the South in presenting his bill for tariff reductions. In striking so directly at some of the industries of the South, as we have heretofore pointed out, he awakened an interest in favor of protection in places where he least expected. The rice and sugar producers, the lumber men, the coal and iron ore miners, all want protection just as much as any one else. The danger that now threatens them will convince them of the necessity of united action in behalf of protection for the South, and in this way will, we hope, do good. Even the Charleston News and Courier is opposed to this bill. In a late issue it says:

"It is not at all probable that there will be any tariff legislation at the present session of Congress. The bill proposed by Mr. Morrison is so manifestly unjust to the business interests of the South that it cannot be expected to draw any strength from this section."

The Savannah Board of Trade have forwarded a memorial to Congress strongly protesting against the passage of the bill, upon the ground that it discriminates against Southern products, and that "more than one-half of the proposed reductions falls upon the products of a very small section of the country, without any reduction on articles consumed by the same section." Three of the four principal products of the South—lumber, rice and sugar—have been singled out by Mr. Morrison, upon which the duties are to be reduced by more than twenty per cent., while the reduction of duties on articles in which the North and West are interested amounts to only about five per cent.

The rice growers of Georgia also are strongly opposed to the Morrison measure upon the ground that if the proposed reduction of duty on foreign rice should be agreed to it would be equivalent to removing all useful protection to, and destroying all profit in, the production of domestic rice, and virtually throwing open American markets to a foreign product lower in quality and without a guarantee of lower prices.

A Georgia Democrat puts the case in a nutshell when he says that the Morrison bill will make the tariff only more objectionable by unjust discrimination against the agricultural and business interests of the South. While it proposes to reduce the duty on rice and sugar, the products of the South, nothing is said about the 10 per cent. per bushel duty on oats, and the 45 per cent. per barrel duty on potatoes, which protect the Northern and Western farmers. The bill will open Southern products to competition with the cheap labor products of the world, and will give our people nothing in return.

Mr. Morrison may be thoroughly honest in his efforts at tariff revision, but the bill which he has proposed will not bring the needed relief to the taxpayers of the country, and for this reason it will fail."

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.

A Cotton-Seed Oil Pool.

A dispatch from St. Louis says:

Two or more years ago J. V. Leads, of Cincinnati, O., an extensive manufacturer of cotton-seed oil, conceived the idea of forming a combination to control the price of the commodity, and since that time has been quietly but zealously at work with several other large manufacturers to put his plan into execution. It is now stated that his efforts have succeeded and that he has formed a corporation known as the Cotton Oil Trust Co., which controls every desirable mill west of the Mississippi river and 60 per cent. of the mills of the entire country. The capital stock of the company is placed at \$20,000,000, of which about \$17,000,000 has been issued to mills bought by the pools. The plan of procedure is stated to be as follows:

"If the officers of the company decide that a certain factory should be subject to pool control, the owner is approached and invited to sell his property. If it is unencumbered and in good working order, he is given certificates to the amount of three times the value of his mill. For less valuable property less is paid. If the mill thus bought can be operated with profit the trust company places in it a superintendent of its own and takes possession of the property. From that time the mill is run as the best interests of the company dictate, the output being regulated by the current price of cotton-seed products. Instead of encountering opposition from mill-owners the pool has been besieged by applications for admission to the syndicate, and it now finds itself almost completely master of the situation."

The wonderful success of the Standard Oil Company, not only from a financial standpoint, but in crushing out nearly all who attempted to fight against them, has possibly had some influence with owners of cotton-seed oil mills, if the foregoing statements as to their desire to join the pool are correct.

FLORIDA'S SPRING EXHIBIT of fruits, flowers, vegetables and home products will be held in Jacksonville, from March 22 to March 27. Owing to the misrepresentations of those unfriendly to Florida as to the amount of damage done by the January cold wave, it is intended that this exhibit shall be such a success as to disprove the false statements that have been circulated. Visitors who can so arrange their trip as to be in Jacksonville at the time of this exhibition will doubtless be well repaid, especially if they desire to see what are the products of the different sections of the State. Mr. James H. Paine, the manager, is determined to make a big success of this exhibit.

THE Mobile Daily Register issued on March 2 a fine special edition to celebrate the opening of Mobile's magnificent new building just erected for the joint use of the Cotton Exchange and the Chamber of Commerce.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$3.00 a year.

Our Birmingham Letter.

The Iron Market—Some Phases of the Tariff Question.]

[Special correspondence MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., March 8, 1886.

Last week opened with the local iron market looking just the least bit blue about the gills. Reports that concessions of 25 cents per ton had been made on one or two large Western sales served to take a little of the starch out of the situation; but only for a day or so, as later information corrected the impression, and toward the close of the week private news from selling agents at Eastern points operated as an able bodied stiffener. Prices for pig iron remain unchanged from previous quotations, with steady and active demand. Mill irons are still moving Westward, and foundry irons Eastward, as fast as they can be supplied from this center. In finished iron lines the trade may be quoted as active enough to exceed the capacity of plant. The new chain works, far from having the usual weary experience of building up a business, find that there is a ready and profitable market for all the chain they can produce. Rolling mills, foundries, engine and boiler works, machine shops and everything else, are pushed hard to accommodate their increasing custom. The pipe works are working on heavy water works orders, and the same concern—the Birmingham Iron Works—is turning out a good deal of improved sugar refining machinery for Louisiana account. Your readers may not be aware that this city is the favorite point to-day with the leading planters and refiners of the Pelican State. The Hardys are New Orleans people and understand the wants of the sugar interest. Consequently their Birmingham sugar machinery is remarkably popular around the gulf. Another successful manufacturer of the king metal is Dr. Bowland, who once prescribed things in Latin for Philadelphia patients, but now finds it pleasanter and more profitable to construct frogs, switches and track tools for Southern railways, and jails for those who need them. He is just putting up a fine jail for the county of Blount, and has orders for several other counties under way. People were here during the week looking for a site for tool works, and there are enterprises projected, also, for the manufacture of several iron specialties.

As several recent letters have indicated there is an upward movement here in real estate values, even more rapid in its progress than the most sanguine were disposed to predict a month ago. Property in the city is changing hands to a considerable extent every day, and outside money is flowing in for investment in a manner that discloses the growing confidence in the substantiality of Birmingham's prosperity. Our banks are daily receiving special deposits in large sums against pending or contemplated negotiations, and there is a steady inflow of prominent and wealthy people looking out for safe investments. Building operations are now being commenced very generally. The winter is over at last, and early vegetables may be expected next, as a pleasant relief to the proper austerities of Lenten diet. The little birds are noisily discussing their matrimonial prospects for the season, and nature is once more becoming green. All these signs blend harmoniously with such a degree of general activity in the life and trade of the community, as no Southern town ever before experienced, and few Western towns have ever equaled legitimately! I say "legitimately" with reason, because I challenge anybody whose opinion is worth consideration to investigate the phenomena of the movement on the ground, and not find cash assets for every square inch of the "boom," if boom it must be called. I dis-

like the word, since it has been for several years suggestive of Western townsite speculations, based largely on wild and treeless prairie land and—wind. This movement is industrial and permanent; it has the sound foundation of iron and coal combined, which, under proper conditions, have never yet failed in this country to build up large communities.

I have often thought to look up the list of Baltimore capitalists interested in and about Birmingham. Without knowing anything about it I have felt very certain that a good deal of capital from your city must have crept in here. I happen to be aware of one important instance in the Watts Coal & Coke Co., which corporation held its annual meeting at the Florence Hotel last week. Messrs. G. S. Watts, John E. R. Crabbe and Thomas W. Johnson, of Baltimore, who are among the leading owners in the enterprise, were in town for several days. It may be remembered that I once made some extended mention of the coke manufactured by the Watts Company in discussing Professor Colton's published opinion that no Southern coking coal would probably be found to equal the Connellsville standard. I then remarked and still believe that the Watts coke more closely approximates the excellence of Connellsville than any product I have ever seen in use.

The current demand for real estate is not confined to city property, but extends to the country as well. Coal, iron and timber lands are almost equally in request. A great deal of superior coal territory is in the market for the first time owing to the extension of the Georgia Pacific and Memphis, Birmingham & Atlantic railways, now in progress. Walker county coal lands, near the Georgia Pacific line, are very popular with investors, and but for the fact that the Louisville & Nashville interest holds large blocks, prices would doubtless advance rapidly. As it is coal property can be had at reasonable figures, and is, therefore, all the more a gilt-edged investment. If there were more first-class iron property for sale a most decided boom could be constructed in that direction at once; but nobody appears to have any on the market, the few pieces heretofore alluded to excepted. There is so little to be had, indeed, that the representatives of an Eastern syndicate have been on the hunt for three weeks to scare up enough to make a solid basis for a single new furnace, which is to be built on the edge of town. Writing of furnaces, Mr. de Bardeleben will likely begin the erection of two at Jonesboro as soon as the plant is nearly enough ready. The Pratt people will commence work on their two pretty soon, and it is said that at least two more will be definitely announced during the month. The matter of steel developments is dormant for the moment, although it is asserted that arrangements have been made to establish one large plant this year; it probably depends upon the legal status of Reese's patents, as may appear in several expert reports anxiously expected by people who intend to invest if the coast is clear.

I have talked with several leading exponents of Southern industrial interests during the past few days on the subject of the tariff agitation. I find the sentiment general, that it is more than pity that Mr. Morrison's tariff bill, now pending, was not a little less asinine! Strange as it may seem, the measure is so completely antagonistic to everybody and to every manufacturing section that the belief is next to universal that it cannot go through. Before the full text of the bill was known, there was marked uneasiness and a strong desire for combination and co-operation for defence. Since the full text has been before the country, this anxiety

has given place to a feeling of confidence that I am afraid is misplaced. Mr. Morrison's bill may be as idiotic as you please, but Mr. Morrison himself missed being a fool by several lengths. He is not oblivious of facts, that it would be well for the industrial world to bear carefully in mind: Cooper, Hewitt & Co., if you consult Messrs. R. G. Dun & Co., or the other eminent authority, the Bradstreet Co., is a single concern of wealth and credit, whose paper one would be pleased to discount and whose orders for native raw material it would give any patriot the highest satisfaction to fill; but Cooper, Hewitt & Co., for the purposes of proposed tariff legislation is an elastic term capable of illustrating an enormous foreign interest whose capital it is suspected is not practically indifferent to the results of the campaign before Congress. Many generally well-informed friends of American industry at the capital, and in the capitol, do not hesitate to assert that what between the British commercial influence and the lobby of the whisky monopolists, there never was a time when a week-kneed Congressman could win as much money playing poker, with as little risk, as at the present time. Bills may be altered late in the session, and the proper number of votes having been "secured," may be railroaded through before the country has a chance to criticize the legislation involved. Unfortunately there seems to be little to hope from the White House in such a contingency. Perfectly sound on political questions, and honest in his convictions beyond any peradventure, President Cleveland is a low tariff man and would not be likely to interpose his prerogative between industry and its enemies in Congress assembled. Far from regarding the danger of disastrous tariff legislation as past, the industrial elements of the New South ought to make redoubled efforts to reach some common plan of action, and an offensive and defensive alliance against the British and whisky combination at Washington. We should especially remember that but for the latter the former would be harmless! Without the constant, secret and corrupt work of the whisky monopolists to destroy protection to American industry, the tariff, as it stands, would be safe for years, and might even be increased. But unless the thing which prevents justice to native capital and labor can be exterminated there never will be any peace for us. The lesson can not be too thoroughly or too often taught that the only safe way to ensure protection is to wage war to the knife on the internal revenue system! Either whisky or protection must win, and the other one go to the wall. The crying need for a personal meeting between all and singular, the manufacturers, miners and lumbermen of the South, to devise means for successfully encountering this great emergency was never more apparent than just now. The MANUFACTURERS' RECORD should never let up until the Southern Industrial Convention is *un fait accompli*. Never mind where it is held, so it be some central point! Birmingham or Chattanooga would do, but, taking it all around, I think Atlanta would be better—only let us have it somewhere, and without unnecessary delay.

G. B. WEST.

THE MANUFACTURERS' RECORD.—This excellent journal is accepted everywhere as undoubtedly the best authority on Southern affairs. The statistics and facts furnished and circulated among capitalists in the North and West are to be relied upon, and have successfully drawn help to the South in development of her material resources. It has helped to build up our reputation abroad and is the exponent of the industrial interests of the South. The editors are Southerners, and we, their brethren of the press, proudly acknowledge their services and the almost miraculous growth of their paper.—Greenville (Ala.) Advocate.

The American Exposition.

[Special correspondence MANUFACTURERS' RECORD.]

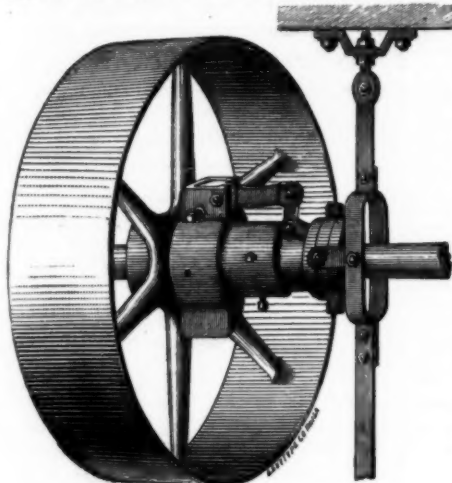
NEW ORLEANS, March 6, 1886.

It would be in the highest degree discouraging to American children and youth to be told what, in mature years most of them will have learned by experience, that very much of the knowledge they are working hard to acquire will eventually be not knowledge but error. Let any person of forty years and upwards think of the geography lessons of school days and compare what was then true with the facts of fifteen years ago, and those again with the facts of to-day, which in all likelihood will not be the facts of next year. National boundaries have changed with almost the regularity of the seasons, and in a few instances with something like their frequency. Forty years ago the States stopped at the Mississippi; beyond was a vast unknown, "the great American desert" of the atlas makers. Where Washington Territory now stands calling for admittance into the sisterhood of States was then a yellow spot on the map called British America and above that a green spot called Russian possessions. The schoolboy of that day was always happy when directed to describe those distant regions, for all he had to do was to remember their boundaries, for there was nothing else known of them. Those who wish to realize the difference between then and now should come to this Exposition, which has, in the government building, collections made by citizens and officials of most of the States and Territories of the Union, that excel in richness, variety and educational value any heretofore made. These comprise the national resources, the agricultural products and the fruits of the industry and ingenuity of Americans as exhibited in their manufactures.

One of the first things that will occur to a reflecting mind is that States and other subdivisions of the country cannot longer be classified as agricultural, mining or manufacturing. Even Territories like New Mexico and Arizona, rich as they are in ores of the precious metals, have other and stronger inducements to offer to settlers than promising mining districts. On the other side the prairie States, which have always been, without question, considered agricultural and nothing else, are increasing their manufacturing to an extent that will soon compel the farming interest to drop to a second or third rank in the census statistics. It is also plain that while "cotton is king" no longer, no other of the great staples can claim first place except corn. This was a revelation to many last year, and has been to many others this season. But the strangest fact of all is that some of the old cotton States have deposed their monarch and are now bowing before iron. Alabama is without a rival in this respect. Her commissioner has gathered into one magnificent collection specimens of all the iron ores of Birmingham and Anniston. He exhibits them in masses of many tons weight, and in small cabinet specimens. On an equally liberal scale are the illustrations of coal and limestone found in contiguity with the ores, thus supplying fuel and flux at a minimum cost. Alabama has thus challenged all her sister States to show anything that can at all compare with her ability to produce cheap iron. It is even more surprising to find that Louisiana, whose cotton and cane fields were supposed to represent her chief sources of wealth, has others much more reliable, because not subject to injury by frost or overflow. In her section is a splendid display of iron ores, collected through the enterprise of the Times-Democrat, a paper always alive to whatever concerns the progress of that State. The native salt and the splendid timbers of this State are suggestive of certain sources of wealth, but there are also vast areas of as fine grazing lands as are to be found in the world, of the very kind that Basil the

blacksmith described to Evangeline, now untrodden by sheep or cattle, that, when bought and occupied, will add to the prosperity of the commonwealth.

While raw materials from the forests, mines and quarries of States and Territories attest the boundless provision made by the Creator for human industries, and while the fruits of the soil and the fishes of rivers and sea on exhibition here witness to the abun-



HUB-FRICTION CLUTCH PULLEY.

dance and variety of the food supply of this land, there are still other displays that tell their own story—a story full of import to the future of all American industries if it is rightly interpreted. At one end of the Main Building of the Exposition are several large displays decorated with the flags of Spanish Honduras, Venezuela, Guatemala and Columbia. In these are shown the ornamental woods, the coffee and cacao, the dye-stuffs, medicinal roots, grasses and vegetable fibres, and a multitude of other natural products of great value in the markets of the world. The export value of these products amounts to several hundred million dollars annually, while these nations buy from foreigners yearly goods worth \$300,000,000. Of this great trade this country has but about one-eighth, although from its proximity to these republics it ought to have the lion's share. The reasons why we have failed to secure it are many, but none of them are insuperable. The presence of these official exhibits, collected at great cost and maintained here at considerable expense, is an evidence of the desire of those governments and peoples to enlarge their trade relations with us. They virtually have said to North Americans, we have brought here specimens of all we have to sell; we ask your custom, and in return we will take from you most of what we now order from Europe. If we can once establish this international trade, all parties to it will be benefited. Such is the real meaning of the large exhibits from Central America that are to be seen at this three Americas Exposition. B. S. P.

Hub-Friction Clutch Pulley and Cut-Off Coupling.

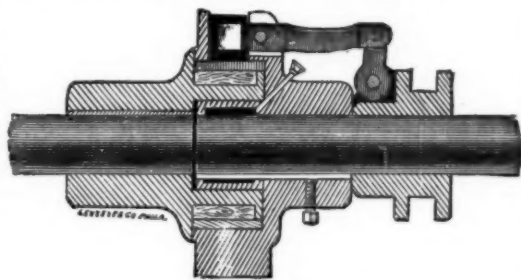
The Cut-off Coupling and Hub-Friction Clutch is an entirely new departure in the line of clutching mechanisms, and is a great improvement in many particulars over the old forms of clutching devices. The manufacturers, The James Smith Woolen Machinery Co., Philadelphia, have letters patent protecting their rights to all the peculiar features which combine to make this a most desirable clutching device.

The term "cut-off coupling" is applied to the clutch when it is used to connect the two parts of one line of shafting, so that one part can continue to run while the other part is at rest, and the term "hub-friction clutch" is used to indicate that the clutch is

applied to a pulley, gear, or other similar mechanism. With the "friction-clutch," the pulley, gear, &c., can be stopped while the shaft on which they are placed can continue to revolve and operate machinery either side of the pulley, gear, &c., the same as if they were not on the shaft, or, by reversing the operation the shaft can be stopped while the pulley, &c., continue to run.

The essential features in this coupling are two hubs, one attached to the shaft requiring to be stopped; this hub is provided with an annular metal ring, operated by proper mechanism and adapted to clasp a corresponding wood-filled ring, or boss, attached to the continually revolving shaft. The clamping and unclamping of this metal ring afford the proper means of stopping and starting as required, the driving being affected by the friction between the ring and its boss.

In Fig. 2 A is the shaft; B is the wood-filled hub fixed on the end of one shaft. The object of making the surface of the hub B partly of wood and partly of metal is to get a more perfect frictional surface, and the wood being porous it retains oil and promotes the lubrication of the surfaces. D is the case or hub fixed on the end of the other shaft; C is the steel spring ring inside of the case D, and which clasps the hub B; this ring is not continuous, but is cut across, a portion of the metal being removed so that the two ends thus formed in the ring may never come quite together, however tightly it may fit the wood-filled boss. F F are levers adapted to oscillate on the points of the adjustable set-screws G G; the toes of these levers fit into recesses near the ends of the steel ring C, the clamping of the ring is effected by the oscillation of the levers on the points of the set-screws. The levers are caused to oscillate by means of a wedge, V, on the end of, and forming part of, a lever not shown in Fig. 1 but seen plainly in Fig. 2. The beveled edge of the wedge V engages with the rounded upper ends of the levers F F, so that on the depression of the wedge the upper ends of the levers F F are forced outward, and the toes of the levers



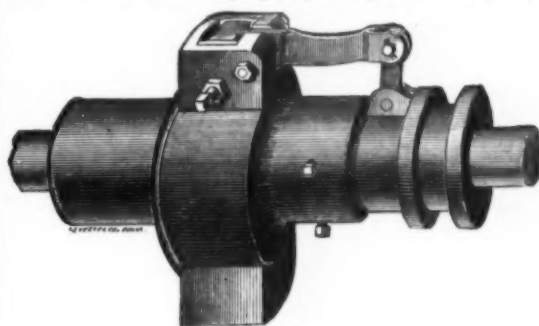
LONGITUDINAL SECTION.

move inward with great force. The end of the lever opposite the wedge is pivoted to a second lever, or link, which in turn is pivoted to a spool sliding freely on the shaft. These two levers are arranged so as to operate on the principle of a toggle joint when the spool is moved longitudinally on the shaft. The movement of the spool is controlled by means of a hand lever operating in a groove on the outside of the spool.

It will thus be seen that that part of the coupling on one shaft consists of the hub with its wood-filled boss, and that that part of the coupling on the other shaft consists of the hub with its metal ring adapted to clasp the wood-filled boss, and the mechanism for clamping the metal ring, which mechanism consists of the levers F F oscillating on the set-screws G G, and operated by the spool or sliding sleeve through the medium of the toggle-jointed levers. The unclamping of the ring is effected by the recoil or spring of the ring when the pressure on the ear F F is removed. K K are oil tubes leading directly to the friction surface; they are screwed into the steel ring C and furnished with caps to retain the oil. H H is a sleeve

having a recess for oil, and may be fastened to the clutch end of shaft; this sleeve enters the male hub, as shown in Fig. 2, which also shows manner of lubricating same.

The operation of the clutch may now be easily understood. When one shaft is required to be at rest the metallic ring is relaxed, and there being no medium of connection between the two shafts, one runs on while the other is at rest. Upon moving the hand-lever the described clamping mechanism is put in operation and the metal ring clasped on to the wood-filled boss, thereby producing friction, which, as the hand-lever is advanced, finally becomes so great as to overcome the inertia and resistance of the still shaft and its attached machinery, and picks up and drives the same exactly as would be the case were the coupling of the ordinary rigid character. When the coupling is closed the ring is slid up against the hub, and the toggle being thrown a little over the center, forms a self lock, and there is no danger of the clutch becoming inadvertently relaxed. We would here call attention to the great power obtained on the metal clamping ring through



SIDE VIEW.

the employment of three of the most powerful elements in mechanics—the toggle, the wedge and the lever. Thus a very small power on the hand-lever will put in full force the most powerful clutch.

These couplings and clutches can be applied with advantage to a vast variety of uses. The cut-off coupling can be used anywhere when it is desired for any purpose to stop one part of a shaft while the other part continues running, whether it be to connect the prime motor with the work to be driven, thus shutting off the entire system of shafting of a factory at one movement, or to disconnect one line or group of shafting or one wing while the rest of the factory continues to run. The friction clutch is used to connect countershafts with main lines of shafting, individual machines to counters or main lines, or one part of a machine with another. In any machinery requiring frequent stopping and starting, or requiring to stop quickly, this clutch presents peculiar advantages, as the machinery can be started as quickly or as gradually as may be desired by varying the movement of the shipping lever, working it quickly to start light-running machinery, and slowly to get up speed gradually on heavy machines.

These clutches are in use in paper and pulp mills for press and calender rolls, paper-cutting machines, etc.; in rolling mills for sets of rolls, shears, squeezers, cupola blowers, etc.; in printing and book-binding establishments for printing and lithographing presses, cutters, embossing presses, etc.; in woolen and cotton mills for opening, picking, washing, drying, weaving and warp machinery, etc.; in flour and grist mills; in machine shops for lathes, planers, drill presses, etc.; in wood-working machinery; in tanneries and breweries for agitators, pumps, and elevating grain, malt, tan, kegs, ice, etc.; on chain wheels as applied to drags, log hauling, and conveyers of every

kind; in steam vessels for disengaging screw propellers, paddle wheels, etc.; in hoisting machinery for mines, docks, elevators, quarries, packing-houses, vessels, etc.; in pumping machinery, circular-saw mills, dye houses, chemical works, cable railroads, and a large variety of other places. The clutches may also be applied to pulley for driving emery wheels, grindstones, electric lights, etc., and are ever ready and reliable as applied to gears for driving fire pumps, and for many other uses.

The clutch is economical in several ways—in saving motive power by stopping lines of shafts or countershafts, and in utilizing the power that otherwise would be required to turn the shafts not in use, and in saving the wear and tear of bearings and other shafting appliances by the stopping of the shaft; in saving belting, which is stopped from running when the shaft is thrown off, as all the belts connected with any particular line would cease to run when the line of shafting was stopped. In the use of the clutch pulley the saving of belts is very great, as there is no straining or haggling of the belt by shippers. The saving of time to operatives is considerable, as, in case it is necessary to stop one room or shaft, the clutch controlling that room or shaft can be thrown off and the room or shaft stopped while the rest of the machinery continues running.

In case of fire, the quick stopping of machinery in the locality where the fire originated may prevent its spread by the draft and movement of running belts and wheels. With clutches properly arranged, in case of fire, the whole factory may be disengaged from the engine or motive power, and the whole power of the motor clutched on to pumps, which at other times do not run, and the full power used in throwing water for the extinguishment of the fire. The clutch enables the use of two motors on one system of shafting, as two steam engines or an engine and water-wheel. In case of country mills, where the water-power runs short at certain seasons of the year, an engine can be clutched on to assist the water-wheel when necessary, and thrown off again when not required. In cases where large mills desire to run a portion of their works overtime, a small engine is placed in the proper position to drive the portion of the works required to run extra. The main motor drives the whole machinery during regular hours, at the expiration of which the portion of the works required to run overtime is unclutched from the main motor and clutched on to the small engine, with the result of great economy in cost of running, the small engine being in operation only during the overtime.

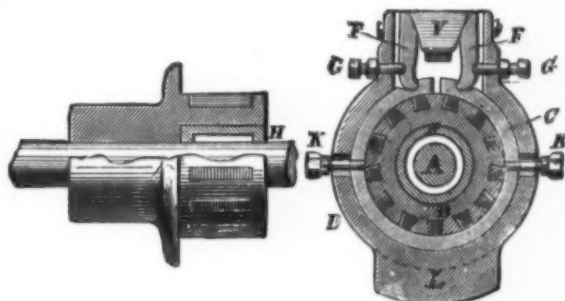


FIG. 1.

FIG. 2.

This clutch is made in various sizes adapted to shafts from 1 inch upwards in diameter, and will transmit power from 1/2 to 500 horse power or more if required. Over 5,000 are in use.

THE BALTIMORE MANUFACTURERS' RECORD is one of the ablest and liveliest papers of the kind in the country. Success to it and all such papers.—Tuscaloosa (Ala.) Gazette.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

P. J. Gebney contemplates enlarging his boiler works at Mobile, Ala.

Several citizens of Selma, Ala., contemplate starting a rice mill.

There is talk of a stock company being organized at Birmingham, Ala., to operate a boiler factory.

It is stated that work will soon be commenced on the two furnaces for the Pratt Coal & Iron Co., Birmingham, Ala., previously reported.

Adam Glass, Rufus Dane and O. L. Crampton, previously reported as having formed a company at Mobile, Ala., to develop coal lands in Walker county, have with others organized the Coal Creek Coal Co., capital stock \$200,000. Mark Lyons is president; J. Pollock, vice-president and Adam Glass, secretary and treasurer.

W. A. Posey is starting a brick yard at Birmingham, Ala.

The Birmingham Gas Light & Illuminating Co., Birmingham, Ala., will, it is said, erect an electric light plant with a capacity of 150 lights.

Turner & Morris, Corona, Ala., have leased 160 acres of coal lands near the Patton mines, and are now developing it.

ARKANSAS.

The Little Rock & St. Louis Railway has been incorporated with George F. Baucum as president, D. G. Fones, secretary and W. B. Worthen, treasurer.

A. R. Powers is moving his steam saw mill from Curtis, Ark., to a point 1½ miles from that place.

The Arkadelphia Lumber Co., reported last week as incorporated at Arkadelphia, Ark., with a capital stock of \$50,000, is building 10 miles of railroad, and will erect several mills next summer to manufacture lumber.

FLORIDA.

George White has purchased a site at Orlando, Fla., and will erect a steam laundry.

George Blum will commence the manufacture of bricks at Tavares, Fla., using sand and chemicals.

The Gainesville Ice Co., Gainesville, Fla., will rebuild their ice factory reported last week as burned; loss \$10,000.

The Florida Railway & Navigation Co. will probably build water works at Fernandina, Fla.

P. W. Lownes, Orlando, Fla., contemplates adding a foundry to his machine shop.

The Sanford Ice & Cold Storage Co. is the name of the company reported last week as organized at Sanford, Fla., with A. M. Thrasher as president. The capital stock is \$20,000. A 10-ton ice machine will be erected.

Thomas Anderson, Jacksonville, Fla., has purchased an old brick yard 3 miles from that city and will, it is stated, erect \$6,000 worth of new machinery.

GEORGIA.

J. N. Cawhern is putting in a new lumber mill at Hiram, Ga.

The mayor of Thomasville, Ga., is corresponding with parties with a view to letting the contract for building water works to cost \$25,000.

D. Hoyt & Co., Atlanta, Ga., have purchased a saw mill and will locate it at Stockbridge, Ga.

Ira J. Carter has erected a mill and cotton gin near Pine Grove, Ga.

The Rome Cotton Factory, Rome, Ga., has ordered some new machinery for their card room.

The machinery for James M. Smith's cotton seed oil mill, previously reported as being erected at Wintersville, Ga., has been received. Machinery for grinding meal and flour, and manufacturing lumber will be operated in connection with the oil mill.

A new jail is to be built at Blairsville, Ga.

KENTUCKY.

The Peter & Melcher Steam Stone Works, capital stock \$45,000, has been incorporated at Louisville, Ky.

The Swearingen Manufacturing Co., capital stock \$20,000, has been incorporated at Louisville, Ky.

Miles & Son, Frankfort, Ky., are adding new machinery to their flour mill.

A bill has been introduced in the Kentucky legislature to incorporate the Kentucky Water Works Construction Co.

Frank Cross, William Brigman, Oliver B. Stearn and John McDonald have incorporated at Louisville, Ky., the National Manufacturing Co., to manufacture burglar alarms.

The Carroll County Distilling Co. will build a 5-story warehouse at Prestonville, Ky.

John Vogel, Henderson, Ky., will erect an establishment for manufacturing ale and bottling beer.

Wyatt & Rawlings have formed a company, it is stated, to manufacture brick at Mt. Sterling, Ky.

Digman & Sims will start a large brickyard at Henderson, Ky.

E. W. Bewly is building a large tobacco factory at Rumsey, Ky.

It is reported that the Chess Charley Co. will erect a barrel factory at Henderson, Ky.

LOUISIANA.

The Crescent City Ice Co., New Orleans, La., has received permit to erect machinery on Magazine street.

A saw mill is being erected at Boyce Station, La., by J. E. Collihs.

MARYLAND.

Lambert Gittings will erect 2 five-story brick warehouses on Camden street, Baltimore.

E. B. Sexton, Baltimore, will build a 3-story warehouse and an iron foundry in the rear of 152 Conway street.

Bills have been introduced in the Maryland legislature to incorporate the Nanticoke & Wicomico Railroad Co. and the Annapolis, Washington & Baltimore Railroad Co.

George W. Albaugh has started a cigar factory at Westminster, Md., employing 15 hands.

The furnaces of the Ashland Iron Co., Ashland, Md., which have been shut down for some time past, will be blown in and operated by the Stelton Co., of York, Pa.

M. Langhorne is organizing at Washington, D. C., the Washington Artificial Ice & Cold Storage Co. Will erect a 25-ton ice machine.

B. H. Warder will build an \$80,000 dwelling on K street, Washington, D. C.

The American Light & Heat Co., Frederick, Md., will make improvements in their gas works.

A bill has been introduced in the United States Senate to incorporate the Equitable Gas Co., of Washington, D. C.

James N. Tinker, George A. Arms, Marion Duckett, George F. Brott and W. H. Frear have organized at Bladensburg, Md., the Washington City & Bladensburg Railroad Company & Land Association, to build an electrical railway from Washington, D. C., to and through Bladensburg and to deal in land.

B. F. Matthews, M. Forney Reese, W. S. Booker, Joshua M. Dryden and Thomas M. Kensett have incorporated at Baltimore the Woven Wire Mattress Co., capital stock \$5,000.

MISSISSIPPI.

A. M. Paxton is president, E. S. Butts, treasurer, and S. P. Metger, secretary of the Vicksburg Water Works Co., previously reported as incorporated.

M. Doche will rebuild her silk factory at Corinth, Miss., reported in this issue as burned.

NORTH CAROLINA.

Hilton & Erwin, proprietors of the Rock Island mills, in North Carolina, will start a cotton factory. Have ordered the necessary machinery.

T. B. Beal and others, Salisbury, N. C., have organized a stock company to build a 3-story factory building for R. H. Foard and G. W. Martin, who will start a tobacco factory as previously reported.

W. T. Wilkins has erected a grist mill at Rutherfordton, N. C.

The Gastonia Mills, at Gastonia, N. C., have been remodeled and improved, and a new engine has been put in.

D. A. Kanipe will start a distillery 3 miles from Marion, N. C.

Mr. Greene, Yadkin College, N. C., will start a tobacco factory at Salisbury, if a suitable building can be secured.

Bell & Quinn will start a bed spring factory at Winston, N. C.

Cowan, Gilbert & Co. have recently erected a saw mill at Elmwood, N. C.

N. O'Berry has purchased the planing mills of Milton Harding, Goldsboro, N. C., and will add new machinery.

Thomas McMahon, Mary K. McMahon and Frank S. Eldridge, of Greensboro, N. C.; William A. McMahon, of New York, and W. P. Brown, of Watertown, Wis., have incorporated at Greensboro, the North Carolina Coach Material Co., capital stock \$50,000. The Greensboro Handle Works, owned by Thomas McMahon, have been purchased and will be operated by the company.

SOUTH CAROLINA.

S. A. Pearce will reopen his stone quarry near Columbia, S. C.

Litton & Mills are erecting a planing mill at Gaffney City, S. C.

TENNESSEE.

The report referred to last week that a stock company had been formed at Jasper, Tenn., to open a coal mine, with Byron Pope as president, is incorrect.

William Morrow, John C. Houk, P. W. Beech, A. M. Hughes, Jr., and E. B. Stahlman have incorporated at Nashville, Tenn., the Scates Warm Air Furnace & Manufacturing Co. to manufacture furnaces.

W. D. Bethel, John Overton, Alston Boyd, H. M. Neely, A. D. Gwynne, W. F. Taylor and others have incorporated at Memphis, Tenn., the Citizens' Gas Light Co.

John Streight has leased the mill of the Nashville Cooperage Co., Nashville, Tenn., and will put in a band saw mill.

George W. Tomlin and William Benjes have leased a factory at Memphis, Tenn., and will manufacture carriages and wagons.

The Gillespie Mitchell Co., Chattanooga, Tenn., have purchased several hundred acres of land near that place, and are erecting machinery for crushing sandstone. Will also open a limestone quarry.

A company is being formed at Cleveland, Tenn., to start a cheese factory. C. B. Cate can give information.

J. P. Hutchinson has started a large brick yard at Nashville, Tenn.

Scholz Bros. are enlarging their tannery at Chattanooga, Tenn.

The Concord Marble Co., capital stock \$10,000, has been organized at Knoxville, Tenn., by James N. Callaway, of Philadelphia; James W. Harvey, L. Harvey, E. A. Akers and W. C. Kain. A quarry has been purchased and will be extensively developed.

A company has been formed, it is stated, to build a grain elevator at Chattanooga, Tenn.

A planing mill will probably be erected at Chattanooga, Tenn.

Johnson & Co., near Cleveland, Tenn., have negotiated for machinery for a large saw mill, which they will erect on the Hiawassa river.

TEXAS.

A \$100,000 roller mill is projected at Waco, Texas. Estimates are being secured from manufacturers.

The San Antonio Spice & Coffee Mills Manufacturing Co., capital stock \$20,000, has been incorporated at San Antonio, Texas.

Aubrey, Tolon & Wande, Weatherford, Texas, have received the contract for building the court house at Kaufman, previously reported. It will cost \$69,569.

Leon Blum and M. Marx will erect a \$50,000 iron and brick building at El Paso, Texas.

B. Worley, Gatesville, Texas, will put some new machinery in his flour mill this spring.

Marshall & Bolton, Whitesboro, Texas, will put a full set of rollers in their flour mill at a cost of \$7,000. The capacity will be 100 barrels per day.

Olive & Sternburg are putting new boilers, engines and other machinery in their lumber mill at Kountze, Texas, doubling its capacity.

The Texas Standard Cotton Oil Co., capital stock \$250,000, has been incorporated at Galveston, Texas, by Sampson Heidenheimer, Isaac Heidenheimer, R. L. Heflin, Meyer Rosenblat and Meyer Bauman.

Farley & Ayers are erecting an ice factory at Temple, Tex.

A company has been organized at San Angelo, Texas, to build a large flouring mill near that place.

Proposals are invited for building courthouse at Meridian, Margaret and Centreville, Texas.

LOCKWOOD, GREENE & CO.

MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.,

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

VIRGINIA.

W. A. Robinson, Edgar Whitehead, Cabell Whitehead, J. B. Robinson and R. M. Cox have incorporated at Lexington, Va., the Lexington Tin Co., capital stock \$1,000,000, to operate mines, build a railroad, &c. About 50,000 acres of land are owned by the company.

Karn & Hickson, Lynchburg, Va., will erect a four-story tobacco factory 55x130 feet.

Mr. Deal is adding a large amount of saw mill machinery to his mill near Waverly, Va.

WEST VIRGINIA.

George H. Grant, Pomeroy, O., will move his laundry machinery from that place to Charleston, W. Va., and re-erect it.

BURNED.

The cooper shop and stove factory of M. J. McFarland, New Orleans, La.

The saw and grist mill of Samuel Hammit in Calvert county, Md.

M. Docke's silk factory at Corinth, Miss.; loss \$2,500. Will rebuild at once.

H. B. C. Gentry's flour mill at Verbena, Va.

James Branch's mill and still-house near Smithfield, Va.

Will Open a Quarry.

CHATTANOOGA, TENN., March 8, 1886.
Editor Manufacturers' Record:

The Gillespie-Marshall Company are now erecting machinery for crushing sandstone boulders to sand and screening to any mesh desired. Will also open limestone quarry, and crush macadam. A warehouse and yard will be located in Chattanooga where sand, lime, cement, plaster and all kinds of building material, except lumber, will be handled. Our specialty will be boulder sand from our mill, which we claim as superior to the famous "Dresden" sand.

J. A. GILLESPIE.

Rebuilding Canning Factory.

BILOXI, MISS., March 8, 1886.
Editor Manufacturers' Record:

We commenced to rebuild March 1, 1886, and will be in full operation by the last of this month. BARATARIA CANNING CO.

Doubling Capacity.

BRUNSWICK, GA., March 6, 1886.
Editor Manufacturers' Record:

Our new engine has arrived. Our large new planer and matcher will be here in a few days. When they are in and working; the capacity of our planing mill will be more than doubled. We will immediately add 18x60 feet on one side of our building, and 10x50 feet in rear, and expect to have the additions completed in about two weeks.

MOORE & VALENTINO.

NEWTON, N. C., March 8, 1886.
Editor Manufacturers' Record:

I have bought property here and am putting in a 50-horse-power engine. Will cut all kinds of carriage material and shuttle blocks, also other hard woods, walnut, oak, etc.

H. W. WEEDON.

Ice and Cold Storage Company.

SANFORD, FLA., March 6, 1886.
Editor Manufacturers' Record:

We have completed our organization. It is called the Sanford Ice & Cold Storage Co., capital stock \$20,000. Officers, A. M. Thrasher, president; W. A. Day, secretary, and D. L. Way, treasurer. Capacity of machine will be 10 tons a day. Hope to have machine here and running early in May.

D. L. WAY.

A New Compress.

BIRMINGHAM, ALA., March 5, 1886.
Editor Manufacturers' Record:

Mr. Wm. Berney, president of the Berney National Bank of this place, Samuel R. Truss, D. H. Brown, F. O. Shirrod and myself have purchased a Curry compress to be ready for operations by August 15, 1886. We have not elected officers yet, neither have we determined on capital stock; it will not, at first, exceed \$1,500.

T. O. BURWELL.

LYNCHBURG, VA., March 6, 1886.
Editor Manufacturers' Record:

We intend building a tobacco factory 55 feet by 130 feet, 4 stories and basement.

KARN & HICKSON.

Will Add a Foundry.

ORLANDO, FLA., March 4, 1886.
Editor Manufacturers' Record:

I contemplate adding a foundry to my machine shop within the next 60 or 90 days.

P. W. LOWNES.

Lumber Company.

ARKADELPHIA, ARK., March 5, 1886.
Editor Manufacturers' Record:

Our company has been chartered. We are building 10 miles of standard gauge railroad into the pine forest, and will put in this summer several large mills for the purpose of manufacturing yellow-pine lumber.

ARKADELPHIA LUMBER CO.

Steam Laundry.

ABILENE, TEXAS, March 2, 1886.
Editor Manufacturers' Record:

A steam laundry is being fitted up in this city by Porter A. Savage & Co.

H. H. HARDEN.

Enlarging Works.

CHATTANOOGA, TENN., March 6, 1886.
Editor Manufacturers' Record:

The report of enlarging our plant is correct. We will also add to our tools an entire new outfit of power tools and a steam riveter, making one of the most complete boiler shops in the South.

ALFRED WEBB.

CHESTERTOWN, MD., March 4, 1886.
Editor Manufacturers' Record:

A company is about to be formed here for the purpose of introducing gas or electric light, probably the former.

CHAS. T. WESTCOTT.

Ice Factory.

MACON, GA., March 6, 1886.
Editor Manufacturers' Record:

There is a new ice factory in course of construction here. It is being built by parties from Columbus—Messrs. Ellis & Co. P.

New Machinery.

HIGH POINT, N. C., March 8, 1886.
Editor Manufacturers' Record:

We have bought more machinery and shall still buy more. We will then have double set of sash, door and blind machinery. We are already the largest in the State.

E. A. SNOW & Co.

Lumber Mill.

BREWTON, ALA., March 5, 1886.
Editor Manufacturers' Record:

We expect to build a lumber mill near this place, beginning in about 2 months. We want a mill of about 40 M feet per day.

BLACKSHER BROS.

Ice Factory.

WASHINGTON, D. C., March 6, 1886.
Editor Manufacturers' Record:

I am organizing the Washington Artificial Ice & Cold Storage Co. We propose to put in a Ferguson 25-ton Eureka machine. I am also organizing a Construction Company to put in gas works and ice machinery wherever they will pay through the South.

M. LANGHORNE.

FLAT CREEK, TENN., March 5, 1886.
Editor Manufacturers' Record:

Hix & Shoffner have built a flour mill at Flat Creek, but the firm is now Hix & Bro.

HIX & BRO.

ROME, GA., March 8, 1886.
Editor Manufacturers' Record:

We have not fully decided as to enlarging our mill at present, but we now have an order placed for some new card room machinery from the Atherton Machine Co., Lowell, Mass.

ROME COTTON FACTORY,
W. H. STEELE, Superintendent.

MINING NOTES.

By T. K. BRUNER, Salisbury, N. C.

THE TREXLER MINE.

lying within six miles of Salisbury, N. C., is under the control of Mr. J. H. Ennis, of that town. Recently he has had prospecting work done which has resulted favorably for the property. A fair grade of ore has been discovered in a vein of sufficient size to warrant success with good management. The ore is a free milling brown quartz, which will go into sulphurets at or below the water level, and is worth from \$4 to \$15 to the ton. It is the intention of those interested to equip and work the property, and arrangements are being made to that end.

GOLD HILL MINES.

Superintendent A. C. Manney reports another new and valuable find in this famous property. The new lode was struck in the west vein, in entirely new ground and above the "Williams Drift," or 400 foot level and west of the 600 foot center shaft. The ore runs solid from the point struck over 100 feet up and for about the same distance in lateral extent. The ore is a heavy sulphide, showing free gold, visible to the natural eye, and is worth way up in the hundreds to the ton. This vein, going down in entirely new ground and west of any other work, is likely to run into another "chute" of ore similar to those found in Randolph and Big Sulphur "chutes" which were so productive in former days. The indications are so favorable that the superintendent cabled the London company this intelligence.

THE SILVER VALLEY MINE.

in Davidson county, has been idle for some time, pending the decision of action in the courts. It was advertised a year ago to be sold under a deed of trust to secure loans, but an injunction stopped the sale. Afterwards the Superior Court ordered that an account be taken between the contending parties. Ex-Judge King, of Baltimore, the referee, has made a report, which, if sustained by the court, will result in putting the mine into activity again at an early day. It is to be hoped that such will be the case, since the property is a very valuable one, and should be producing. The ores are complex, carrying silver, (about 30 ounces to the ton,) lead, zinc, sulphur and some copper. Formerly the ore was concentrated by "buddles" and the concentrates shipped to Swansea, Wales.

BARRINGER GOLD MINE.

The Barringer mine is located in Stanly county, four miles from Gold Hill (in Rowan), and 18 miles from Salisbury. It

has been visited within the last ten days by a number of Kentucky gentlemen, who contemplate taking hold of the property. This will depend on the assay tests now being made, which is to verify the present favorable opinion of the mine. These gentlemen have made thorough investigation, had the water forked from one of the shafts and new ground opened. They also took samples for assay from this and all the other shafts, and from all the old dumps. Some of the ore taken from the shaft opened was very rich in free gold, distinguishable at a glance, and would assay into the thousands. The average of all the samples taken will be the basis of decision. No doubt is entertained as to the result, and it is with confidence that those who know the property look forward to its early opening. The Barringer has produced thousands, and that too without going to any depth. The deepest shaft on the place is less than a hundred feet down. The formation is of such character as to warrant the belief that the ore bodies will remain intact as depth is attained. The Meech process has been chosen as the most desirable for this ore, and will be used should these gentlemen conclude to buy the property, which is to be decided within the next twenty days. The fact that they have canvassed and decided upon a process is an indication that they mean business. Theo. F. Klutz, Esq., of Salisbury, is one of the largest owners, and will be interested in the new company.

With the opening spring much activity is expected in the mines of this district. Already parties comprised in part of capitalists are making tours of examination, and many mines, which were idle during the winter, are expected to resume.

HOLMAN'S MILLS, N. C., March 4, 1886.
Editor Manufacturers' Record:

Your persistent efforts to advance the cause of the South should be gratifying to every Southerner, and your labors in behalf of protection should be encouraged by all who wish to make an honest living. Let us have a convention and demand protection, and the repeal of the liquor and tobacco revenue laws that are causing more abuse of the government than any other thing I know of. Hurrah for protection, and down with internal revenue!

Wishing you much success, I am

Yours respectfully,

NATHAN STAFFORD, a Voter.

THE SOUTH for March contains an elaborate and very interesting description of the country of which Asheville, N. C., is the center. The article is profusely illustrated and ably sets forth the attractions of that delightful section, of which comparatively few people know anything.

THE Anniston (Ala.) Hot Blast has been enlarged to 8 pages. The Hot Blast is a live and well conducted paper, and is a fitting exponent of the interests of the wonderful town in which it is published.

Mr. J. H. MILLS, Thomasville, N. C., wants to correspond with dealers in school bells, and boilers to heat water.

THE BALTIMORE MANUFACTURERS' RECORD is doing a good work in the South in more ways than one. From week to week it brings out facts that are unknown to the most of our people, and which we gather from no other source.—Goldboro (N. C.) Transcript and Messenger.

ADVERTISERS wishing to reach manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD.

A Virginia Coal Field.

MIDLOTHIAN, VA., Feb. 22, 1886.

Editor *Manufacturers' Record*:

I have been anxious for a long time to furnish to your most excellent journal some information on the immense fields of bituminous coal in this region, but I have waited and hoped to see politicians fall into line, and casting aside partisan feelings, concentrate their energies upon the real interests of the country, instead of wasting time and keeping business in an unsettled condition by continually agitating the tariff question.

There exists in this region one of the greatest coal fields in the known world. The field is about 26 miles in length with a general strike of strata N. N. E. and S. S. W., and its breadth is from 4 miles and upwards. The angle of inclination is from 25 to 50 degrees. The coal is highly bituminous, and gives as good an analysis as the best coals in England. The coal is from 5 to 50 feet thick, and there is a seam at Midlothian 85 feet thick, almost free from bone or impurities of any kind. There is about 20 miles of this immense field of bituminous coal untouched, and as large as the late Mr. Vanderbilt's fortune was the dollars in it are as a drop in a bucket compared to the tons of coal this huge coal field will yield; a cubic yard of this coal weighs over one ton, and a seam of coal 3 feet thick will yield to every acre 4,840 tons, and after deducting a large percentage for waste leaves about 3,227 tons of available coal per acre, and 100 acres should produce 322,700 tons from a 3 foot seam. A large area of this coal basin is 20 feet, and in other places 50 feet thick, but if we take off of the 20 foot seam 6 feet and put it at 14 feet, to make allowances for pillars, etc., then one acre should produce 1,004,000 tons, and if we take 8 feet off of the 50 foot seam and put it at 42 feet, to make allowance for pillars, etc., one acre should produce 3,065,600 tons.

Now multiply by 15 cents per ton for the vendor, and 85 cents or \$1 per ton profit for the vendee or owner or operator, and you will see what blessings flow from coal mining if it can only have the legitimate protection it is rightfully entitled to, but the benefits do not stop at the vendor and vendee, as this coal field should give constant employment to hundreds of men and boys, and thus give the farmers a market at their own doors.

In addition to the large deposit of bituminous coal there exists right here in this district a continuous deposit of natural coke for fully one mile; this rich and wonderful deposit is within close proximity to the Richmond & Danville Railroad, and when we consider how easily and cheaply and without any risk of loss it can be mined, I risk nothing when I say it offers a rare opportunity for safe and profitable investment.

This excellent fuel ignites easily and makes a sweet, cheerful fire in stove or open grate, and it burns with a tenacity equal to the cannel coal and is as durable. This deposit of natural coke is only 12 miles from Richmond, and if mined on a large scale and judiciously, and with constant energy, it can be delivered in Richmond at \$2 per ton, as the Richmond & Danville Railroad Company must have had Chesterfield's exuberant deposits of coal and natural coke in view, and to induce capitalists to come and work it, when they wisely fixed the freight on coal at the moderate rate of 45 cents per ton.

There exists all through the mile of natural coke I allude to, a workable seam of bituminous coal, and it is in close juxtaposition to the seam of natural coke, and can be mined from the same places of entry as the coke. A good lease on the coke and coal property can be obtained. But the immense fields of coal and coke Chesterfield county contains is not the only inducements to investments in this region; for, although the experiment has never been made, there are places that could be selected on the Midlothian Colliery that would doubtless

yield for an indefinite period as large quantities of natural gas as the best places around Pittsburg or anywhere else.

I have shown the *MANUFACTURERS' RECORD* to a good many intelligent gentlemen, and all I have seen or heard from unanimously applaud your wise and timely suggestions for a Southern convention on the tariff, and they, as well as I, hope your laudable efforts will be crowned with success, and that the circulation and patronage of the *MANUFACTURERS' RECORD* may rapidly increase.

JOB ATKINS, M. E.

The Cotton Question.

The low price of cotton prompts some to purchase. It is quite likely that they may be right in their guess, for no fact is better supported by experience than this, that a speculative market generally does what it is most unreasonable to do. If all legitimate considerations, all substantial reasons of demand and supply, indicate that it ought to go up, a speculative market usually goes down. It would not be a good market for speculators if it obeyed the laws of trade. In the present state of things there are some good reasons why cotton ought to go still lower; therefore it is quite likely that it may rise.

There still remain in the world some "old fogies," however, who wish to know whether

It is computed that Northern spinners have taken since September 1st about 1,270,000 bales, against 1,000,000 bales taken during the same part of the previous year. An increase of 27 per cent. in actual consumption of cotton by Northern mills during the six months ending with February, in comparison with the consumption of the six months ending with February, 1885, has not occurred. In view of the known prices of goods during the past six months, the prolonged strikes in some mills and periods of idleness in others, it will hardly be believed that the actual consumption has been much larger than that of the previous year. Last year the estimated consumption of Northern mills for the entire year was only 1,420,130 bales; this year they have already taken only 150,000 bales less than that quantity. The natural conclusion is that the stock on hand is unusually large, and that the Northern mills are likely to take much less than the usual quantity during the remaining months of the crop year.

The hope has been entertained that a great increase in exports would promptly follow a decline in prices. Of this expectation there is some realization; during February the exports were 98,000 bales larger than in the same month last year. But in January, with prices about two cents per pound less than in the same month last year, the exports were smaller than in Janu-

quite surely induce buyers to come forward, in the confident belief that any purchases would result in profit before long. But English industry is in such a state, and England's trade with India is so disturbed by the cheapness of silver, that one can hardly reckon upon free anticipations of their needs by foreign spinners. And the spinners of the Northern States, it is evident, have liberally anticipated future needs already.

The root of the matter is that the production of cotton has gone on, and is expected to go on this year, with no regard whatever to the general prostration of manufactures here and abroad, which necessarily curtails consumption. Unless there should be prospect of a short cotton crop next fall, of which there is no sign now, it would not be strange if cotton should decline still further before the present surplus has been cleared away.—*N. Y. Commercial Bulletin.*

The Gem Water Motor and Hydraulic Pumping Engine.

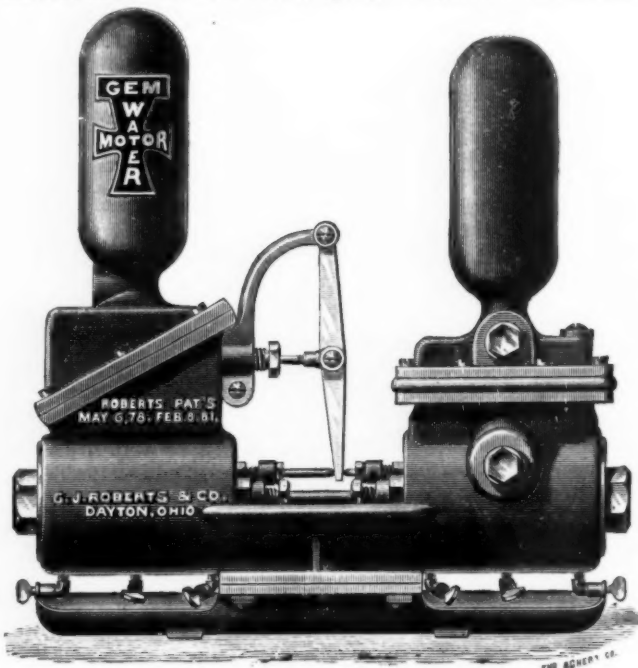
This motor is designed to take the place of the ordinary hand force-pump in houses for supplying families with cistern water to an elevated point—for the bath, kitchen or any other purpose for which it may be desired, doing its work automatically and noiselessly. The motor consists of two cylinders, connected together, one a perfect water engine, the other a double-acting force-pump, operated by the former. It altogether combines symmetry, strength and utility. All parts are interchangeable. The cylinders, pistons, cylinder-heads, piston and valve rods and valves are made of brass, and provision is made for thoroughly draining every part to prevent freezing in cold weather.

Further information may be had from the manufacturers, Geo. J. Roberts & Co., Dayton, Ohio.

An Important Invention.

To give to oyster and fruit labels and other colored printing the gloss that is required by those using them, it is necessary to varnish them. This has heretofore been an extremely expensive part of the work, for the reason that after being varnished the sheets had to be laid out singly on racks to dry. This of course involved a great loss of time and the employment of additional force, and necessitated a large amount of extra space to accommodate the racks. The sheets had to remain from 6 to 24 hours, according to the temperature of the room, before being ready to handle. The varnishing and drying of 4,000 sheets would require on an average 12 hours' time and the labor of 5 hands. A machine for doing this work has recently been patented by Mr. F. X. Hooper, proprietor of a machine shop at 12 and 14 Second street, Baltimore, and is now in operation at the label printing establishment of Messrs. Guggenheimer & Weil, corner Lombard and Liberty streets. The sheets are fed by a boy to the glossing machine in the same manner as to a printing press, and are then carried automatically on a web or net to a drying chamber. After traveling the length of the drying chamber over hot-air pipes they are brought back through a cold-air chamber and automatically delivered on a receiver thoroughly dry and ready to be handled. It requires only one boy to manipulate this machine, and 1,000 sheets an hour can be glossed and dried.

THE *Times-Union*, of Jacksonville, Fla. says: "The *Morning News*, the American daily, of Paris, of a recent date, states that Mr. Albert Van Wagner, the distinguished American barrister in London, has withdrawn his name from the council of the so-called American Exhibition, and predicts that his example will be generally followed 'by every American of standing whose name has been used in connection with the scheme.' There seems to be a screw loose somewhere in the exhibition machinery."



GEM WATER MOTOR.

the facts, the laws of trade and the actual conditions of business favor higher or lower prices. These men prefer to do business on business principles, and to them it may be interesting to observe what the state of the cotton trade really is. A speculative combination made artificial prices for a long time, much to the injury of manufacturers in this country, but it appears to have gone to pieces. After a "pool" bursts the markets are sometimes governed for a time by the wants of actual buyers and actual sellers, and not by the plans or the needs of gamblers.

The stock of cotton in the hands of dealers at the ports and the interior towns is now about 450,000 bales, or 44 per cent. larger than it was a year ago. Notwithstanding this unusual accumulation, the receipts at ports last week were 93,000 bales, against 50,000 for the same week last year, and the receipts from plantations were 87,000 bales, against only 32,500 for the same week last year. This certainly does not indicate an exhaustion of the stock on plantations; nor is it reasonable to suppose that the low prices which have recently prevailed would have sufficed to bring forward so much cotton if the crop and the supply remaining had been as small as some suppose. The natural question is where consumers are to be found for the large stocks already in sight and the stock remaining on plantations.

ary, 1885. Up to date, the aggregate of exports since September 1st has been about 200,000 bales less than for the corresponding part of the previous year, but that is a decline of only about 6 per cent., and the known prostration of British industry—the known fact that British exports of cotton goods during five months ending with January 1, 1885, were 1,824,720,000 yards against 1,904,057,600 for the same months of the previous year, a decline of over 4 per cent.,—warrants the belief that the consumption has decreased nearly if not quite as much. In short, there is a melancholy lack of evidence that foreign buyers are about to rush into this market speedily and to take for foreign consumption more cotton than was taken for such countries last year after this date. But foreign buyers must clear away 450,000 bales more, in order to balance the increased accumulation of stock at ports and in the interior towns, without at all considering the supply still in the hands of planters.

If we have on hand more cotton than there is a demand for, it may well be doubted whether, with industries remarkably depressed abroad, buyers will be disposed to take that extra load into their own hands because the price is low. If business were brisk or promising, the case would be different. Then indeed remarkably low prices would

VICK'S MAGAZINE for March presents the usual amount of valuable matter for those interested in the cultivation of flowers and vegetables. Published by James Vick, Rochester, N. Y.

EMMA MARSHALL, who counts her readers by the hundred thousand, has a new novel in the press of Cassell & Company. It is called "No. XIII; The Story of the Lost Vestal." Ancient Rome is the scene of the story, and the ancient Romans are the *dramatis personæ*.

THE MARKETS.

Trade remains about as reported last week. A satisfactory amount of business is being done, and spring trade promises to open up well. We quote the list unchanged and firm as per annexed figures:

Ref. Bar Iron, 1 to 6x $\frac{3}{4}$ to 1.....	" lb.	1.85@	2.10
" " " 1 to 4x $\frac{1}{2}$ x $\frac{1}{2}$ to 1.....	"	1.85@	2.10
" " " $\frac{3}{4}$ to 2, round and	"		
square.....	"	1.85@	2.10
Hoop Iron, $\frac{3}{4}$ wide, spawed.....	"	2.45@	2.45
Band Iron, from 1 $\frac{1}{2}$ to 6 in. wide...	"	2.30@	2.45
Horseshoe Iron.....	"	3 @	3 @
Norway Nail Rods.....	"	3 @	3 @
Black Diamond Cast Steel.....	"	9 @	10 @
Machinery Steel.....	"	2 1/2 @	4 @
Spring Steel.....	"	3 3/4 @	4 @
Common Horse Nails.....	"	8 @	9 @
Railroad Spikes, $\frac{1}{2}$ x9-16.....	"	2.30@	2 1/2 @
Horse Shoes, keg.....	"		3 70
Mule Shoes.....	"		4 70
Steel Boiler Plate.....	"	3 1/2 @	3 1/2 @
Iron Boiler Plate.....	"	2 1/4 @	4 @
Boiler Tubes.....	"	5 1/2 @	off list

The pig iron market is without material change as to prices, but the generally improved condition and the more hopeful outlook, reported last week, continue. Prices range about as follows:

Baltimore Charcoal Wheel Iron (all Baltimore ore).....	25	00	26	00
Virginia C. B. Charcoal Wheel Iron.....	25	00	26	00
Anthracite, No. 1.....	18	00	19	00
" " 2.....	16	00	17	00
" " 3.....	15	00	16	00
" " Mottled and White.....	13	00	14	00
Old Iron Rails.....	21	00	22	00
No. 1 Wrought Scrap.....	18	00	19	00
Old Car Wheels.....	16	00	17	00

The advance on wrought iron butts, predicted by us a month ago, took place March 3d. The present discount is as follows:

Narrow table and back flaps, light narrow, light inside blind, loose pin, light butts.....	65 %
Reversible and loose joint.....	65 & 5
Bronzed butts.....	40 %

The manufacturers of bright wire goods, March 2d, advanced the discount to 75 and 10 per cent. An advance of 15 cents per keg is announced on Burden, Perkins, Diamond State and Phoenix horse and mule shoes. The market remains unchanged, and trade is gradually improving. It is impossible to predict at present what effect strikes may have on manufacturers of hardware, but it is reasonable to assume the tendency will naturally be to advance prices, which are still unremunerative. Some of the leading goods are sold at a very slight advance over cost, and we would suggest that merchants

Philadelphia Iron Market.

The business in the iron trade during the past week has been surprisingly light. It is impossible to account for the sudden drop-off in demand. It is known that large consumers are pretty well supplied with material having been large buyers for several weeks. It is also known that very few of the larger companies have any pig iron to sell, having sold up from one to four months. Manufacturers have been disappointed over two or three things; first, the dull demand for finished products, second, the increasing cost of material. There is an upward tendency in cost everywhere, and a general advance has been made in wages, ranging from 10 to 15 per cent. Strikes are prevailing everywhere, and but very little opposition is offered to the efforts of organized labor to secure higher pay. All kinds of crude iron are selling slowly, but concessions are not to be had under any conditions. Those who have iron to sell are more confident than ever that they will be able to sell at 50 cents to \$1 higher. If there was a summer demand for finished iron there will be a general advance in crude iron all around of no less than 50 cents. Even, were this to take place, it would do very few any good, simply because so many have contracted for all they can make for a long time, and could not share in the improvement. The mills are creeping along very slowly, not taking enough business to guarantee them steady employment. Nails are \$2.40 to \$2.50, with builders coming into market anxious to make contracts but afraid. The plate mill men have had a better week than any other, and are selling at 1.90 for ordinary plate, tank 2 cents, skelp 1.85. All kinds of bridge iron are firm and rather quiet. Steel rails are not active, although it is known there are a good many buyers ready to do business as soon as something definite can be known as to the future policy of the syndicate.

CINCINNATI, March 8, 1886.

The general conditions afford much comfort to producers who consider that if an active demand should spring up the scarcity of iron would force prices higher, whereas should the market continue in its present lifeless state there could be no recession for

LOUISVILLE, KY., March 8, 1886.

Notwithstanding the adverse weather in February, we have not, this year, had to contend with floods as in certain previous years, which must be an offset to more or less disappointments in trade. The long expected advance in wrought butts, with the appearance of the Burden horse shoe circular marking the price up instead of down, the first time in several years, the firmness of steel tire, plow steel and plain wire, all go to lend considerable confidence.

Bar Iron.—Is holding its own without any great demand or prospect of change one way or the other. Very few of the mills seem soliciting business and none of them eager to take it except at what nets a material advance over last summer's figures.

Nails.—Are very firm. The demand is increasing slightly as the spring weather approaches, but from reasons stated in our report last week there can be no materially higher prices. The demand for steel nails is particularly good.

Among goods manufactured here sold largely with hardware may be mentioned plow singletrees and collars. Makers report an unusually heavy demand this year. Advance in any kind of goods, however, seems light compared with spring seeds. Onion sets, which last fall sold for \$4.25 per barrel, now fetch \$21.00. We quote:

Bar Iron.....	1	80	@ 1	90
Crescent Steel.....	10	@ 1	90	
Flow Steel slabs.....	3	50	@ 75	
No. 27 Sheet.....	3	50	@ 3	10
Galvanized sheet, best.....	3	50	@ 55	00
Galvanized Iowa barb wire.....	4	75	@ 85	00
Burden Shoes.....	4	15	@ 85	
Junata Shoes.....	3	75	@ 85	
Carriage Bolts.....	3	75	@ 10	00
Steel nails.....	2	65	@ 75	
Iron Nails.....	3	50	@ 60	00
Rope, Sisal.....	8	@ 8	@ 8	00
Rope, Manila.....	15	@ 13	@ 13	00
Screws, American Screw Co's list.....	75	@ 80	@ 80	00
Axes.....	6	50	@ 6	75
Cross cut saws, wide, per foot.....	26	@ 3	@ 3	00
Cross cut saws, narrow, per foot.....	21	@ 3	@ 3	00

With concessions to large or wholesale buyers.

Specially reported by GHO, H. HULL & Co., Commission Merchants for the sale of Hot and Cold Blast Pig Iron.

LOUISVILLE, KY., March 8, 1886.

The market continues very quiet in this section. There is some revival in the inquiry for charcoal car wheel iron, and several considerable sales have been made during

FIG IRON.

Southern Coke, No. 1 Foundry.....	\$18 00	@18 50
" " " " " "	17 00	@17 50
Hanging Rock Coke, No. 1 Foundry.....	16 00	@17 00
" " " Charcl. " " " "	18 00	@19 00
Southern Charcoal, No. 1 Foundry.....	18 00	@19 00
Silver Gray, different grades.....	16 00	@17 00
Southern Coke, No. 1 Mill, Neutral....	16 00	@16 50
" " " " " " " "	15 00	@15 50
" " " " " Cold Short.....	15 00	@16 00
Southern Charcoal, No. 1 Mill.....	17 00	@18 00
White and Mottled, different grades....	13 00	@14 50
Southern Car Wheel, standard brands... " " " other brands	25 00 21 00	@26 00 @22 50
Hanging Rock Cold Blast..... " " Warm	27 00 21 00	@28 50 @22 00

The following Patents were granted to citizens of the Southern States, bearing date March 2, 1886. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Adams, W. L., and A. A. Hasson, Baltimore, Md. Flexible flooring.....337,992
Adler, A. S., Baltimore, Md. Shoemaker's measure.....337,939
Allfree, J. B., Cumberland, Md. Grinding-mill.....336,979
Bryan, W. S., Kosse, Tex. Baling-press.....337,937
Bywater, J. K., and J. V. Burke, Paris, Tex. Car-seat recorder.....337,305
Davis, J. H., Covington, Ky. Spring.....337,948
Davis, J. C., Athens, Ga. Water-elevator.....337,252
Dodds, J. H., and T. C. Cedar town, Ga. Fertilizer-distributor.....337,33
Erlanger, Charles, Baltimore, Md. Overalls.....337,316
Forbes, A. J., Campbell, Tex. Railway nut-wrench.....336,908
French, S. H., and W. J. Maltby, Baird, Tex. Wheel-hub.....337,319
Hamprecht, August, Wellsburg, W. Va. Decorated glassware.....337,344
Hamprecht, August, Wellsburg, W. Va. Manufacture of decorated glassware.....337,345
Harrison, W. H., Louisville, Ky. Money-drawer for fare-boxes.....337,862
Hawley, Henry, Culpeper, Va. Window-blinds.....337,152
Irons, E. P., Baltimore, Md. Gas-cock.....337,161
Langhorne, J. S., Lynchburg, Va. Device for picking fruit, flowers, &c.....337,168
Lifsey, J. A., White House, Ga. Combined Plow-stock and cultivator.....337,609
Marcus, M. H., Baltimore, Md. Quilting-Machine.....337,178
Mason, C. T., Jr., Sumter, N. C. Cotton-harvesting machine.....337,007
McCall, A. D., Laurinburg, N. C. Sash-fastener.....336,938
McGregor, Barnett, Earlington, Ky. Dumping-cart.....337,013
Monroe, D. M., Baltimore, Md. Can-soldering machine.....337,277
Owner, J. S., Hagerstown, Md. Rubber boot or shoe.....337,198
Page, Bennett, Evergreen, Ala. Floor-camp.....337,197
Patin, Justin, New Roads, La. Steamboat stage.....337,881
Potect, J. E., Wortham, Tex. Harvesting-sack supporter.....337,194
Randon, Francois, New Orleans, La. Apparatus for the production of pure sulphurous gas.....337,791
Ransom, F. A., East Palatka, Fla. Combination of blind and wire screens.....336,944
Roemhildt, Henry, Baltimore, Md. Barrel-bung.....337,084
Seymour, F. W., Wheeling, W. Va. Stopper-fastener.....337,208
Smith, H. H., Wilmington, N. C. Purifying water.....337,086
Stansbury, A. D., Colliers, W. Va. Broom-holder.....337,091
Tunis, H. C., Baltimore, Md. Cutter for molding-machines.....337,353
Tyler, M. S., and T. H. Carter, Mount Sterling, Ky. Chain-pump.....337,354
Veteto, G. M., Mills, Tex. Car-coupling.....337,096
Vincent, W. O., New Foundland, Ky. Beehive.....337,097
Whitaker, D. W., Durham, N. C. Printer's galley.....337,218
Wilkins, Joseph, Baltimore, Md. Amalgamator.....336,970
Wilkinson, Jasper, and F. Curtin, Kentuck, Ala. Cotton-cultivator.....337,222
Wilson, C. J., Knoxville, Tenn. Saw-tooth.....337,191

(American and Foreign), Trade Marks, etc., procured through the old-established agency of

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TEMPLE COURT, NEW YORK CITY.
(Entrance, 5-7 Beekman St.) Hand-book of information sent
free to any address.

Chattanooga Iron Market.

Specially reported by LOWE & TUCKER, Brokers and Commission.

CHATTANOOGA, TENN., March 8, 1886.

As the spring opens so does the volume of business expand, and there is little excuse for idle hands now.

The construction of new buildings is now in excess of all past anticipations, not only in this city, but in many other cities in the South where manufacturing interests are centered.

The planting interests are very backward, owing to the continued cold weather, but that it is thought will result in good, as it will materially decrease the cotton area, and cause more grain and vegetables to be planted.

The demand for iron to the South continues to increase and some round lots have been sold to the Southern foundries, who are anticipating a good run of trade during the balance of the year. We continue quotations as last given:

No. 1 Foundry.....	\$15 50	@ 16 50
No. 2 Foundry.....	14 50	@ 15 00
American Scotch.....	14 50	@ 15 00
Gray Forge.....	13 00	@ 14 00
Car-Wheel Iron.....	13 00	@ 14 00
Ores, Red and Brown.....	1 50	@ 2 25
Furnace Coke.....	2 00	@ 2 30
Nails, car-load lots, 30 days.....	—	—
Bar Iron, per 100 lb.....	—	@ 1 75
Old Rails.....	—	@ 21 00
Old Wheels.....	—	@ 15 00
Wrought Scrap, No. 1.....	—	@ 70
No. 2.....	—	@ 50
Cotton Tie Clippings.....	—	—
Cast Scrap.....	—	—
Railroad Splices.....	—	@ 1 85
Railroad spikes.....	—	@ 2 25
Light Steel Rails, long ton.....	—	—
Barb wire—Cambria link.....	—	—
Barb wire—four point galvanized.....	—	—
Barb wire.....	—	—

St. Louis Iron Market.

Specially reported by ROGERS, BROWN & Co., Gay Building, 204 N. 3rd street, St. Louis. W. H. SHIELDS, Manager.

ST. LOUIS, March 8, 1886.

The market continues irregular and unsettled; some grades are plentiful, with no demand, while others are scarce and hardly obtainable at a considerable figure. We quote on cars, St. Louis, cash:

HOT-BLAST CHARCOAL.		
Missouri.....	\$17 00	@ 19 00
Southern.....	18 00	@ 20 00
Ohio.....	—	—
COKE AND COAL.		
Missouri.....	—	—
Southern No. 1.....	18 50	@ 19 00
Southern No. 2.....	17 50	@ 18 00
Southern No. 2½.....	—	—
American Scotch.....	18 00	@ 21 00
MILL IRONS.		
Missouri.....	16 50	@ 17 00
Southern.....	15 75	@ 16 75
CAR-WHEEL AND MALLEABLE IRON.		
Southern.....	20 00	@ 25 00
Lake Superior.....	21 00	@ 23 50
MISCELLANEOUS.		
Old Wheels.....	15 00	@ 16 00
Old Rails.....	30 00	@ 21 00
Connellsville Coke, East St. Louis.....	—	@ 5 40

TRADE NOTES.

MESSRS. GEO. DRAPER & SONS, Whitinsville, Mass., have made such arrangements with the Whittin Machine Works, of Whitinsville, Mass., as will enable them to furnish the spindle known to the trade as the Whittier or Taft Gravity Spindle for all old frames.

THE case of Otto vs. Stearne, (L. Stearne & Co., London, manufacturers of the Clerk gas engine,) which it was understood was settled previous to the trial of the action of Otto vs. Steel, was called up on the first of February in the High Court of Justice—Chancery Division—before Mr. Justice Pearson.

The attorney for the plaintiff stated that the case had been standing out of the paper pending a settlement, and the parties had now arranged terms. The defendant had agreed to submit to a perpetual injunction, and to pay the costs; plaintiff on his part not pressing for any inquiry as to damages. The attorney for the defendant agreed to these terms, and the order was made accordingly. —Reported in the Journal of Gas Lighting, London.

ROWLETT'S Champion Lawn Mower is a new machine made by the Champion Roller Skate & Wagon Co., Richmond, Ind. It is a very light-running machine, and possesses many other points of superiority that should commend it to the trade. Illustrated description with prices, etc., will be sent on application.

FROM the time when steam and its power, as shown in the tea kettle, were first scientifically studied down to its general adoption for the purposes for which it is now used, it has been a great object to produce the greatest amount of heat with the least amount of fuel. The saving of heat is the saving of fuel, which is the saving of money. All persons using steam know the great importance of preventing the waste of power. There have been a number of boiler coverings introduced, designed to accomplish this end. Some of them were worthless, and proved total failures. With the introduction of what is known as the "Cuirass" covering, however, this need was satisfactorily supplied. It is claimed that this covering will stop all radiation, give engines and steam pumps more power, and that cylinders will lubricate with half the oil after the pipes are covered. Cuirass Steam Pipe and Boiler Covering is prepared from light and non-combustible fibrous material in the form of cement, without the use of refuse hair, clay and worthless articles. It is non-combustible and can be safely applied to surfaces of high temperature. It has been in constant use for 16 years, and through its own merits has worked its way into some of the largest manufacturing concerns in the country. It can be safely termed a cheap good article. Mr. William Mitchell, 53 and 55 German street, Baltimore, who is the general agent for the Southern States, will give any information as to its uses, price, etc.

A VERY interesting test of injectors was recently made at the agricultural works of the Aultman-Taylor Co., Mansfield, Ohio. This company, desiring to put on its traction engines the best injector to be had, advertised for a contest between the principal injectors of the country, the manufacturers of the one shown to be the best to receive a contract for a year for furnishing all the injectors for the engines turned out by the Aultman-Taylor shops. Several of the best known manufacturers of injectors entered the contest, which was made before capable and impartial judges. In the tests made to determine the lifting qualities, the automatic qualities, the maximum and minimum water thrown in five minutes, the American Favorite Injector, made by the American Injector Co., Detroit, Mich., came out ahead of all others. In the hot water test the American ran up to 120 degrees with ease, while the rest broke at 90 and 95 degrees. In every feature of the trial the American was shown to be the best injector, and the manufacturers received the contract for supplying the Aultman-Taylor Co.

Important.

The improvements of the Grand Union Hotel are simply elegant, and the hotel is always kept in perfect order. It is so convenient to all the depots that guests arriving by the Grand Central Depot have their baggage transferred to and from the Grand Union Hotel in five minutes, free of charge. Guests arriving by steamer or railroad, South, North, East or West, are conveyed to the Grand Union Hotel by the elevated railroad for five to fifteen cents, thereby saving \$3 carriage hire. During the past year 110,000 people occupied the 613 rooms of the Grand Union Hotel at \$1 and upwards per day, including of course its elegant suites of rooms for families on the European plan. The dining-rooms, restaurant, cafe, lunch and wine-rooms were supplied with the best at moderate prices. Families lived better at the Grand Union Hotel, and for less money, than at any other first-class hotel in New York.

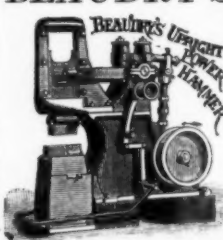
THE American House, Boston, holds its popularity as well as any hotel in the country, on account of its central location, excellent management and liberal charges for first-class accommodations.

T. M. Parker, Steel Stamps, Stencils, Hartford, Ct.

WOULD LIKE TO TAKE CHARGE OF THE AGENCY

of some American manufacturing or other company in Germany; thoroughly conversant with German and English; excellent references. Please address F., care of MANUFACTURERS' RECORD.

BEAUDRY'S UPRIGHT CUSHIONED



Power Hammer, BY FAR THE BEST!

Blow accurate, powerful and elastic. Will increase the profits of any shop.

70 Kilby St., BOSTON, MASS. Beaudry & Cunningham.

WANTED

By Practical Machinist, with five years' road experience as contractor, salesman and collector, position to travel for some FIRST-CLASS Machinery Supply House in Georgia, South Carolina and Florida. Personally known and liked. Best reference. Address A. B., 286 FOURTH ST., MACON, GA.

SAM. F. HARLAN,

LOUISVILLE STEAM PUMP WORKS.

Harlan's Improved Tube Well Pumps

Combined with the famous Cook Strainer, for Manufacturers and Private Use. All kinds of Pumps Repaired, also, Blacksmithing and General Jobbing Shop, Awnings, &c. Cistern and Well Pump Manufactory.

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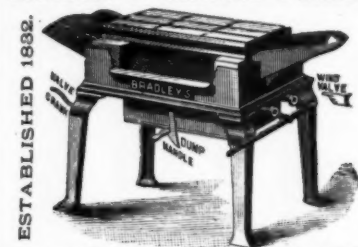
A1 SEWER PIPE CLAY,

Delivered f. o. b. vessel at Bermuda Hundred, James River, at \$1.00 per ton. Write for sample.

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RICHMOND, VA.

BRADLEY'S HEATING FORGES.



For Hard Coal or Coke. Indispensable in all shops to keep Bradley's Cushioned Hammers and men fully employed and reduces cost of production.

BRADLEY & CO. Syracuse, N.Y.

PATENTS.

RARE CHANCES FOR "GILT-EDGED" INVESTMENTS. The undersigned make a specialty of developing and selling United States Patents. They are now offering to manufacturers several new and valuable inventions at very reasonable figures, among which is a patent (just issued) for an automatic Steam Boiler Injector, and a Slight Feed Lubricator, both of which have been sufficiently developed to establish their merits. For particulars address,

THE NOTEMAN MFG CO., TOLEDO, O.

Correspondence with inventors solicited.

Derby Roll Top and Flat Top Desks



The BEST and CONSEQUENTLY the CHEAPEST OFFICE DESK IN THE WORLD.

Derby & Kilmer Desk Co.,

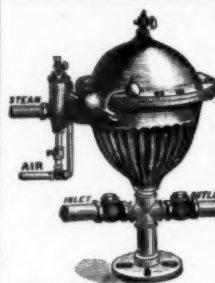
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20 PRIZE MEDALS AWARDED
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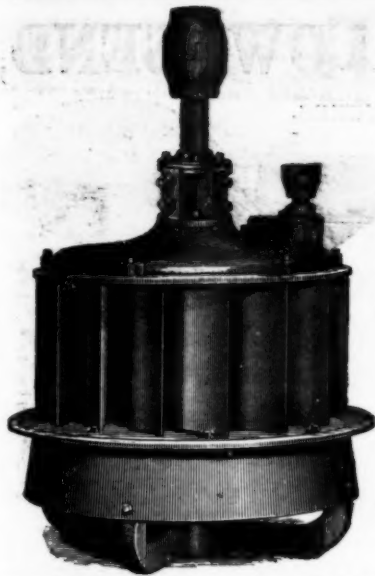
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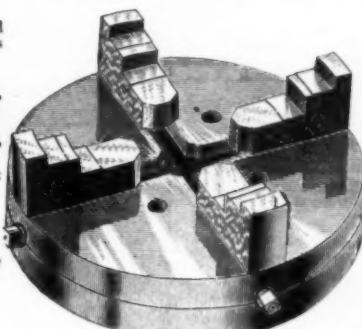
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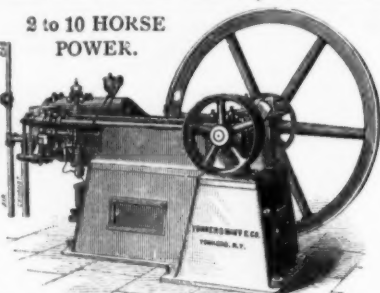
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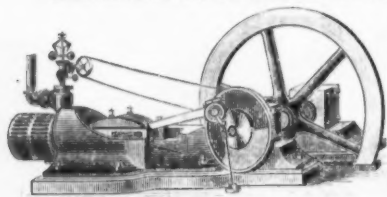
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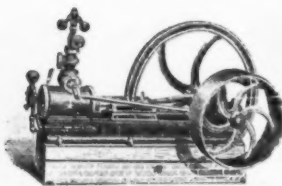
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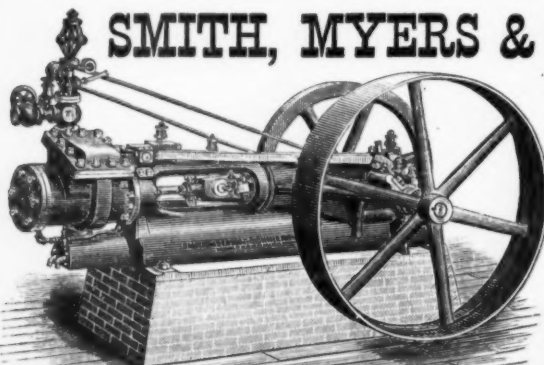
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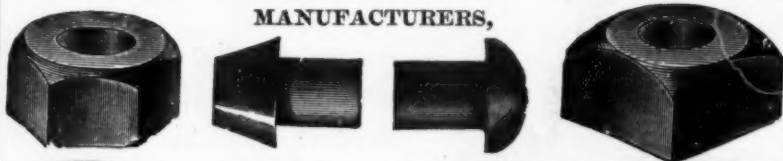
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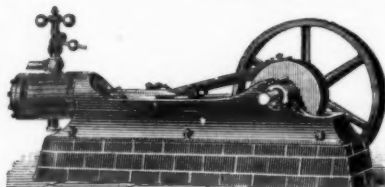
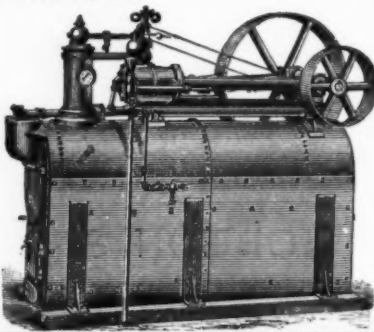
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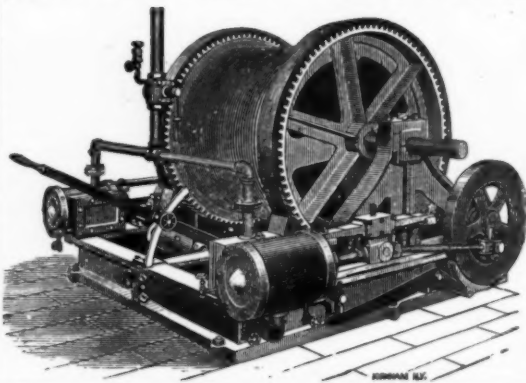


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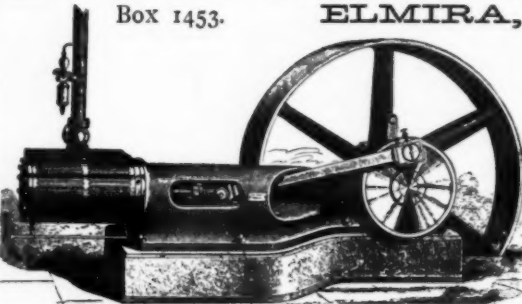
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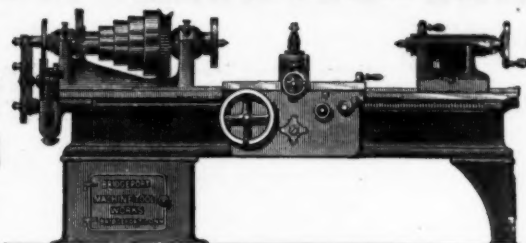
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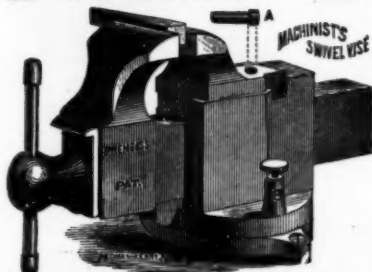
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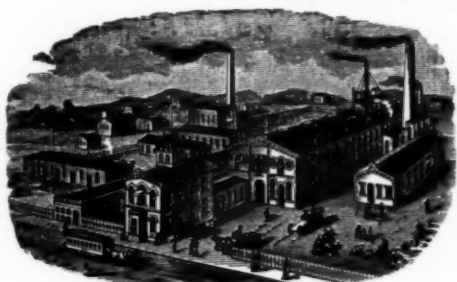
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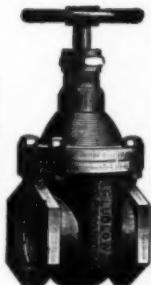
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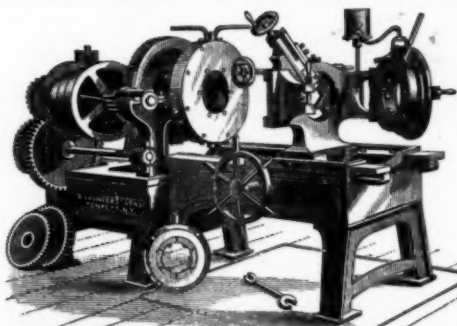
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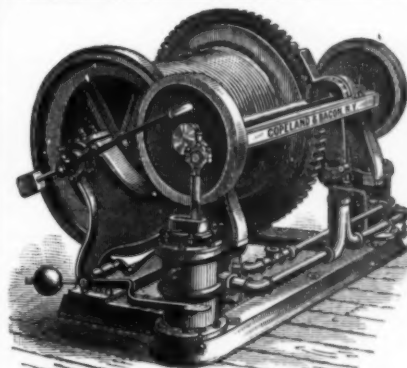
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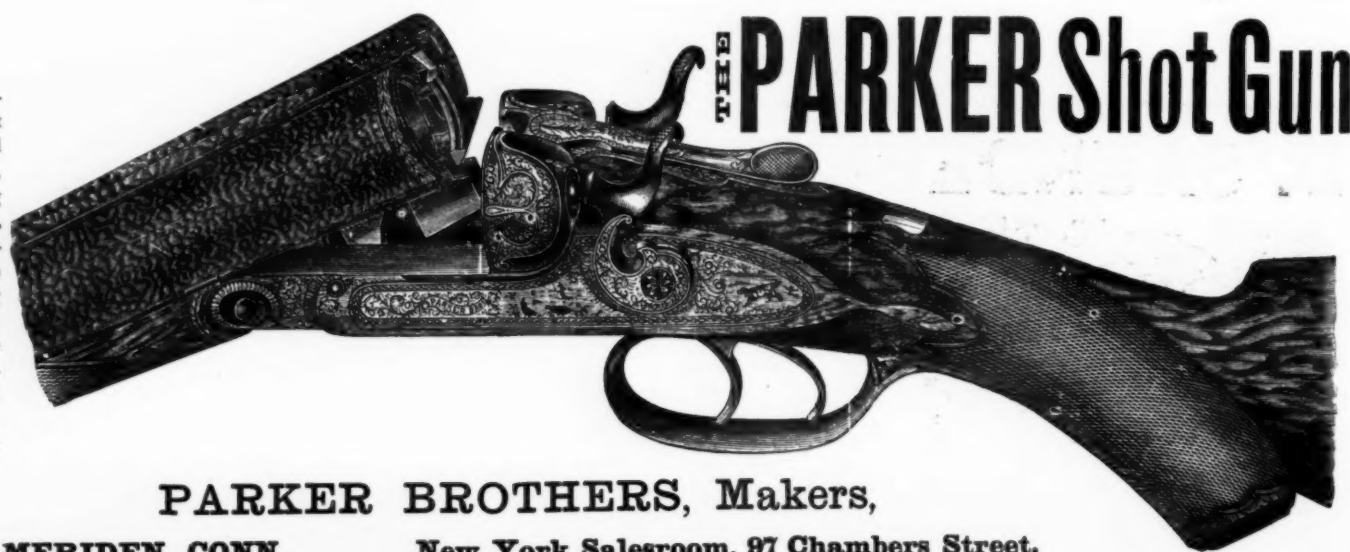


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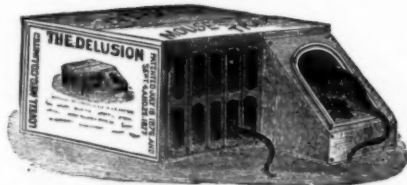
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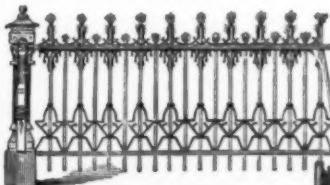
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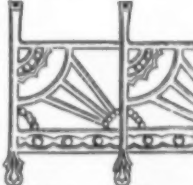
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WANTED—A partner with capital of \$8,000 to \$10,000 to take an interest in the manufacture of yellow ochre. Quality good and a large supply. Send 2 cent stamp for samples. J. M. Reynolds, Montevallo, Ala.

WANTED—A situation as foreman in an iron, coal, copper or manganese mine. Sixteen years experience. Good references given. Strictly sober. Can bring five or six good men with me. Please address, James H. Sills, Linden, Va.

SITE and Water Power Free to a woolen, cotton or other manufactory in one of the largest towns in Texas. There is also a fine opening for a cotton compress. Address, J. Jukes, 603 Avenue B, San Antonio, Texas.

PARTNER WANTED with \$3,000 or more to start a stove and bucket factory, by party who is an experienced mill man, owns timbered lands, steam saw mill, iron lathe, planer and good set machinist's tools. Will guarantee the investment and \$2 per annum. Address A. K. Fisher, Abbeville, Wilcox county, Ga.

SITUATION WANTED by a travelling salesman having experience in handling engines, boilers, saw mills and machine supplies. W. Ruof, Covington, Ky.

I WISH to sell Seven Thousand Acres Finest Woodlands in the South. Woods comprise countless thousands of White, Post, Red and other oaks, Hickory, Pine, Ash, Cypress, Maple, Gum, Walnut, Sycamore, etc., etc. Want mill men and lumber merchants throughout the United States to communicate with me at once. E. B. C. Cash, Cash's Depot, S. C.

WANTED to buy a tract of timber land, hickory or walnut, or both. Address W. R. E., care MANUFACTURERS' RECORD, Baltimore.

PARTNER WANTED—One or more, with a capital of \$5,000 to \$20,000, to operate an agricultural manufacturing business, already in operation, or will sell the entire property; located at railroad depot; water-power second to none. Address D. K. Self, Telford, Washington Co., Tenn.

PLANING MILL FOR SALE—A complete set of machinery, shafting, pulleys, &c., all in good order and ready to run; also all necessary buildings. Best location in the city. Will be sold at a bargain. Address E. H. Jenkins, Columbus, Ga.

COTTON OR WOOL MACHINERY WANTED to fill a brick building 40x30 feet, with annex 40x50 feet. Water-power, 20 tenement houses, store, barn and stone warehouse. Will take value of property in stock of cotton or wool mill. For full particulars, photographs, &c., write to W. D. Griffith, agent, Athens, Ga.

ANY ONE desiring to invest capital in an established well-paying manufacturing business in the South, can obtain information by addressing Lock Drawer, Letter Q., Meridian, Miss.

WANTED—I wish to correspond with a steam fitter, to go South, competent to take charge of water and steam circulation for house heating. Address E. C. Tainter, 31st and Chestnut street, Philadelphia.

WANTED—A person of experience and capable of taking charge of a spoke and handle factory; must be well recommended; one who could take a small interest preferred. Address J. H. D., Calera, Ala.

WANTED—A Partner, with some capital, to manufacture the Orr Gin, that has a good reputation. Location in the center of the best cotton region of Alabama. The shop and machinery ready for operation, near Selma & New Orleans R. R. Location is healthy, water good. Address Jas. F. Orr, Orrville, Ala.

A CABINET MAKER can hear of a good opening in this county. A splendid water power given away sufficient to run machinery. Also wagon-making and repairing. This is a good opportunity for a man of enterprise and small or large capital. Write to S. Worthen, Bakersville, Mitchell county, N. C.

WANTED—To learn of a good opening for the establishment of a large saw mill in Eastern Tennessee or Western North Carolina, where there will be abundance of timber for several year's work, and near transportation. H. F. Burt, Elizabethton, Tenn.

WANTED—Capital to take interest in 40,000 acres Choice Timber and Mica Lands. Big money to careful party. Address, C. F. Griffing, Spruce Pine, N. C.

PARTNER WANTED—With about three thousand dollars, to carry to completion a splendid business enterprise already well underway. Will pay handsomely, and field practically unlimited. Party need not change residence. Full particulars upon application with references to T. F. C., Box 57, Selma, Ala.

FOR SALE—Orange property, three miles from the city of Tampa, Florida, on thickly settled avenue. A bargain. Title perfect. Terms easy. Address Geo. A. Smith, Tryon City, N. C.

WILL manufacturers of machinery for silver plating, also of electro batteries, send catalogues and prices to J. R. Powell, 123 South Spruce street, Nashville, Tenn.

E. C. TAINTER, 31st and Chestnut street, Philadelphia, Pa., wants to correspond with makers of and dealers in split bottom and flag seat chairs.

PARTNER WANTED with \$5,000 capital to help mine and ship coal. I have an 8 foot vein now opened, with a tram road just finished, 100 rods long, 1 1/2 miles from the B. & O. R. R., at Webster, W. Va. This is the nearest mine to Webster, with which place it is connected by a level road. Coal is worth here 6 cents a bushel. About 20,000 bushels have recently been shipped from the mines. J. H. Smith, Webster, W. Va.

THE Talladega Oil Mill & Public Gin is offered for sale, or would form a stock company for manufacture of fertilizers and soap. Correspondence solicited. W. E. Yancey, Talladega, Ala.

VALUABLE COAL PROPERTY FOR LEASE in Montgomery county, Va., two miles from railroad. Address Chas. C. Kasey, New River Depot, Va.

A FIRM of Engineers and General Machinists, now doing business in a Northern city, would like to learn of some good, healthy locality in the South where there is an opening for a machine shop and foundry. Their machine shop tools are all first-class and new, and both members of the firm are practical mechanics. One of them is a good draughtsman and is capable of making drawings and building any style of engines or machinery. Address Machine Shop, care MANUFACTURERS' RECORD.

A GOOD machine shop foreman and mechanical draughtsman, with a few thousand dollars to invest in a very profitable business, can secure a position at a salary of \$1,000 per year with prospects of rapid increase. Address, Lock Drawer (Letter) Q, Meridian, Miss.

WANTED—A position as foreman in a small country newspaper office. Can offer as recommendations that I never drink and promptness. Write for information, stating wages, etc., to S. M. Taylor, Brownsville, Tenn.

FOR SALE—I offer for sale an interest in a well-established Foundry and Machine Business. A good location; a growing business; valuable patents and patterns. Control of the Southern States on a valuable specialty. For particulars address W. J. care MANUFACTURERS' RECORD.

WANTED—A partner with \$5,000 or \$6,000 to engage in a very profitable manufacturing business. Special inducements will be given to right party. Large demand and good profit. For particulars address H. L. Freeman, Concord, N. C.

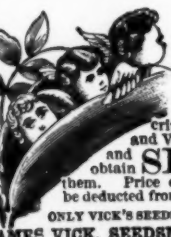
A GENTLEMAN of good practical, as well as technical education, wishes position as assistant superintendent or foreman in machine works, where he can, in time, take an interest. David Rice, care MANUFACTURERS' RECORD, Baltimore, Md.



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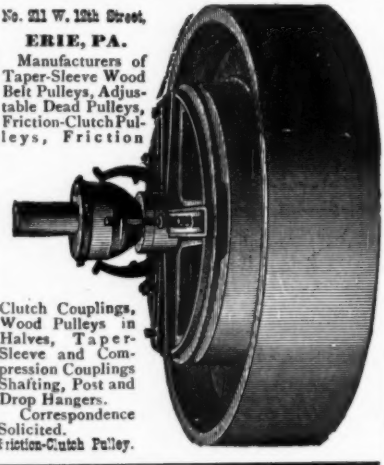
The Holyoke Machine Company, of Worcester, Massachusetts, advertise in this issue their well-known Hercules Water Wheel. This wheel has many points of merit that strongly commend it to the attention of those who use water power. The most thorough tests have demonstrated its many good qualities. In Holyoke it is the standard water wheel, the aggregate horse power of the Hercules wheels in operation there being greater than that of all other wheels combined. These wheels are very popular in the South as well as in the North, having been in use for many years in a large number of Southern mills. There are four of the Hercules wheels now in operation in the big cotton mills of the Eagle & Phenix Manufacturing Co., Columbus, Ga., and Mr. John Hill, of that company, in writing, Feb. 25, 1885, to the Holyoke Machine Co., said: "Within the past four years I have ordered four 'Hercules' wheels, all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a 'Hercules' wheel has been added each time a new wheel was wanted. In the Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The 'Hercules' is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal mechanically. It is all that can be desired in economy of water. In fact, is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon."

That is a pretty strong letter, but it is only a sample of letters received by the manufacturers of this wheel. Among the recent shipment of wheels have been two—one a 54-inch and one of 60-inch—to a Georgia cotton mill. Two Hercules wheels are being put in at Natick Cotton Mill, and one at the Arctic Mill of B. B. & R. Knight near Providence. This will make eleven wheels furnished to this well-known firm, one of the most prominent in the manufacturing line in New England. Hercules wheels are sold in England, Ireland and Scotland, and on the Continent, a cable order having been received only a few days ago for one to go to France. The manufacturers say: "The Hercules gives the most power for its size and the highest average percentage from full to one-half gate of any wheel ever made." Their advice to all users of water wheels is to "get the best at first." If you are interested in water wheels, if you want a new wheel or a larger wheel, or a better wheel than you are using, write to the Holyoke Machine Co., Worcester, Mass., for catalogue No. 3.

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CHAS. F. CLARK, President.

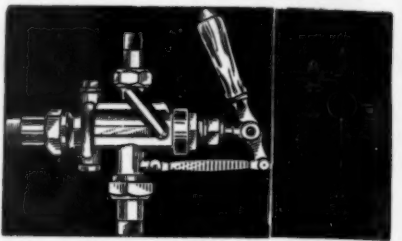
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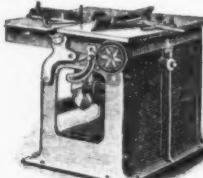


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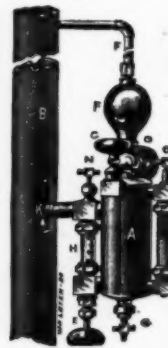


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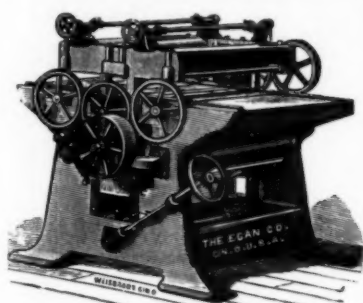
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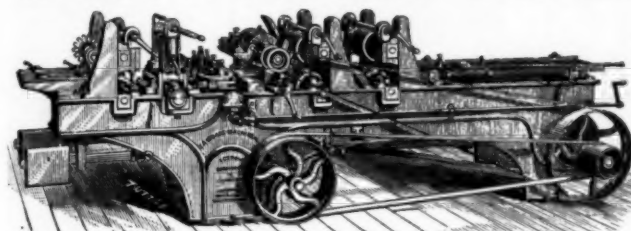
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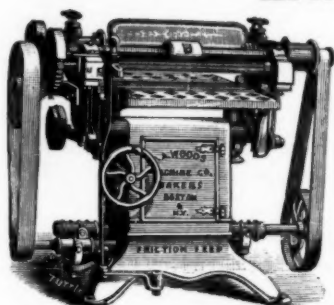
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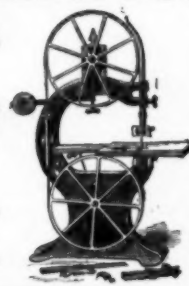
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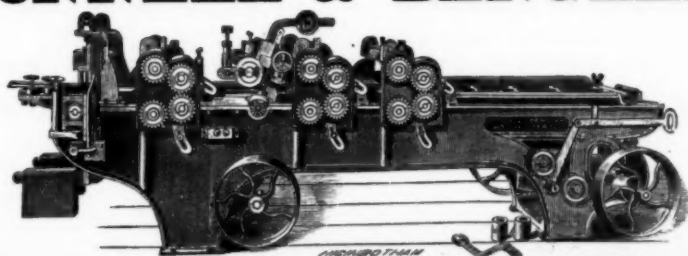
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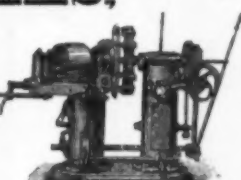
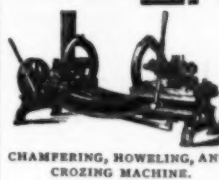


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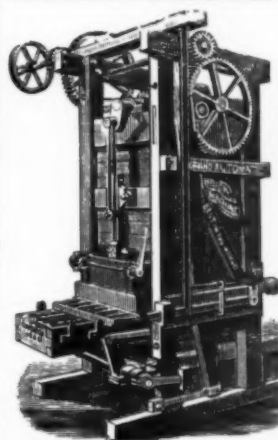
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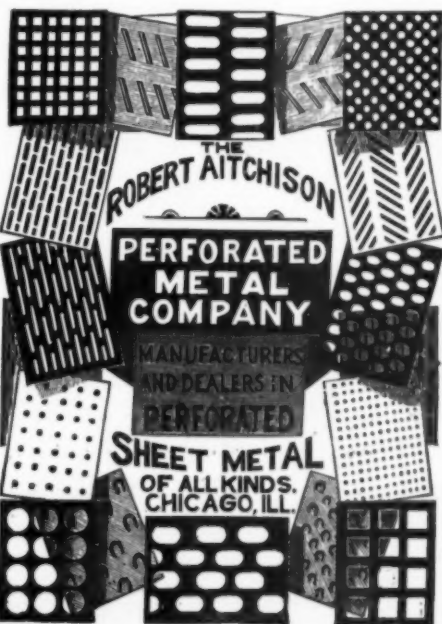
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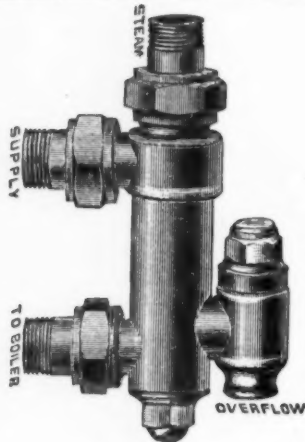
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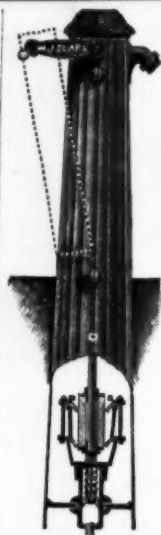
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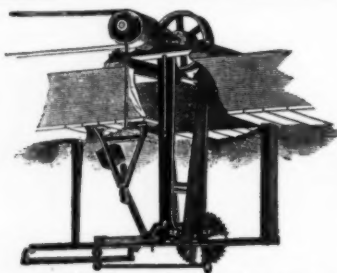


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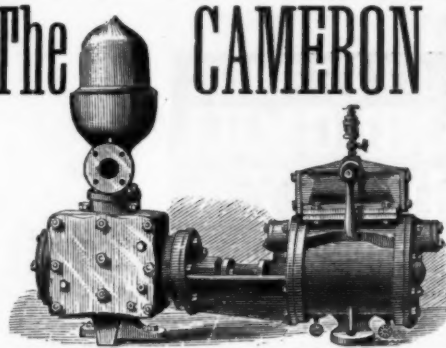
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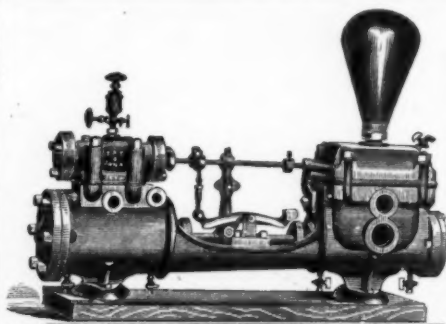
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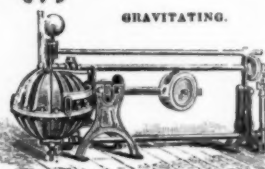
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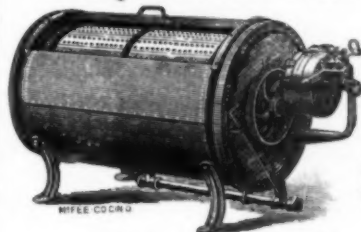
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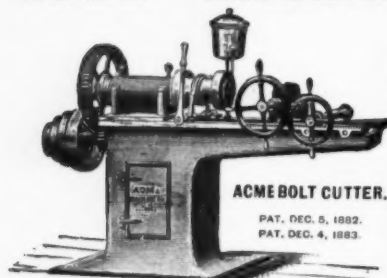
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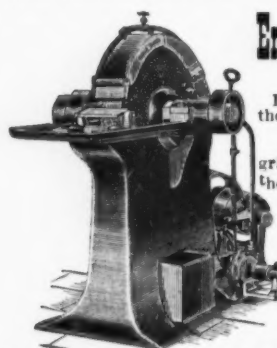
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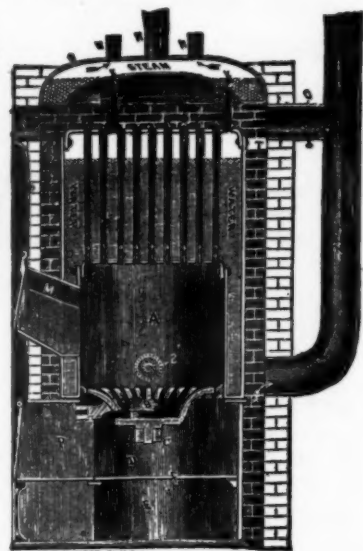
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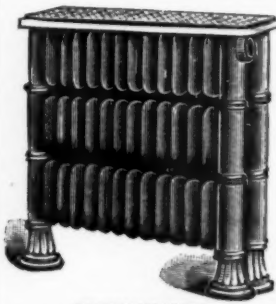
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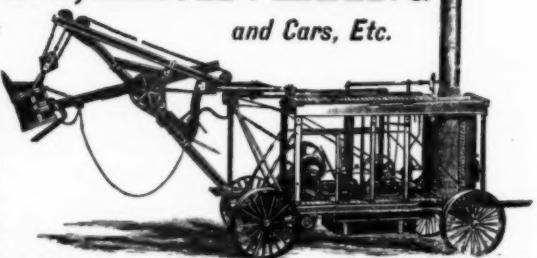
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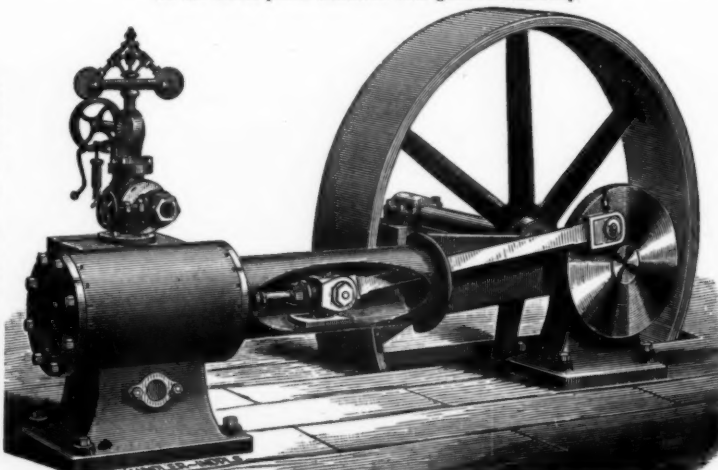
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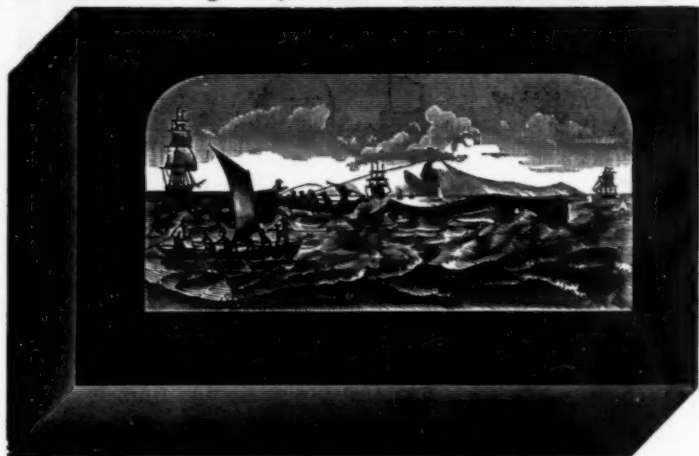
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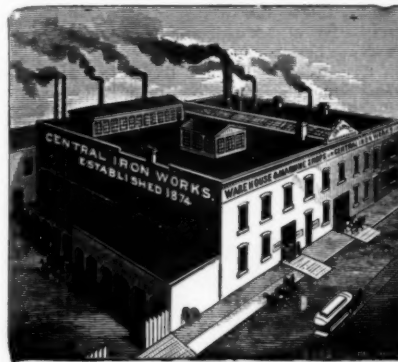
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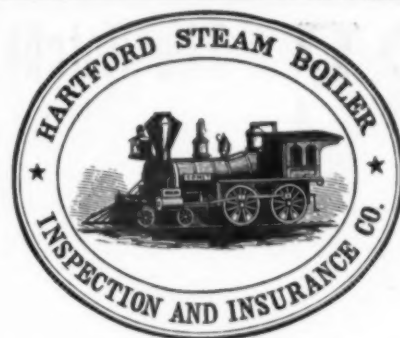
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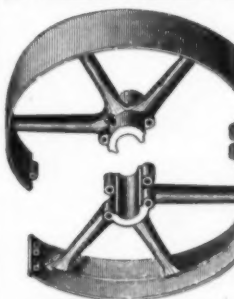
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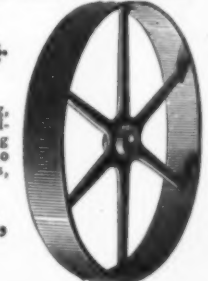
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Cast Pulley Castings

Machine-molded Pulleys save from 10 to 20 per cent. in turning, balancing,
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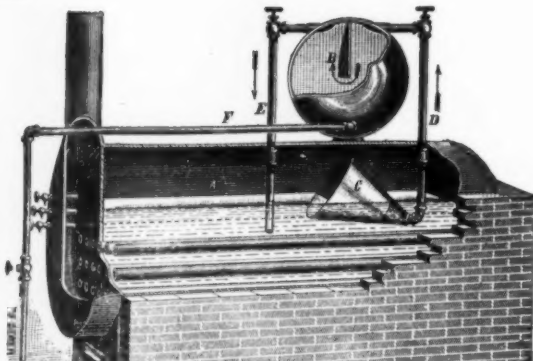


FIRE

The Hotchkiss Mechanical Boiler Cleaner

STEAM

Removes from Steam Boilers, Lime, Oil, Magnesia, and all other impurities of Boiler Water, and prevents Scaling, Foaming and Burning; but the object of this advertisement is to warn you against an INFRINGER named H. ESTELLE and his agents, who have been selling without patent or license from me, Boiler Cleaners, as shown by the cut on right hand side below. I take this method of informing the public in order that they may not further be deceived, as on August 4, 1885, a patent issued to H. ESTELLE for what he claims, as given in full with cut on right hand side below the cut, showing the HOTCHKISS CLEANER complete, except the shape of the Skimmer, which is an equivalent for my Funnel Skimmer.



The Hotchkiss Mechanical Boiler Cleaner.

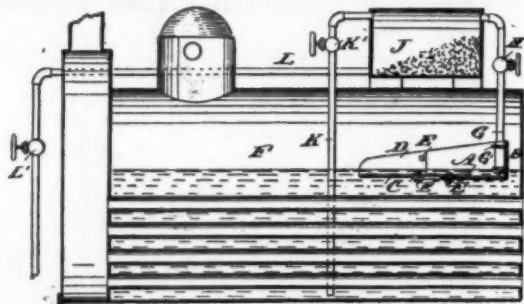
CLAIM 1. The method of collecting impurities from the water-level of steam boilers, raised thereto by ebullition, by carrying them beneath said level and upward into a reservoir with an ascending current induced by the displacement of a cooler body of water in said reservoir, and depositing the impurities therein by precipitation, substantially as specified.

CLAIM 5. A bell-mouth or device having an enlarged receiving area for gathering the sediment, and suspended within the boiler by means of a pipe extending into the same from the upper shell thereof, the said bell-mouth and pipe constituting the induction channel for the upward current, carrying the sediment, combined with a reservoir and a return-pipe leading from the same to the boiler water, the whole forming a means of circulation for the boiler water, and for removing impurities therefrom, substantially as herein set forth.

"How to Keep

BOILERS

CLEAN"



[Cut and Claim Copied from Patent.]

Having thus described my invention, WHAT I CLAIM AS NEW, and desire to secure by Letters Patent, is—

1. The combination, with the settling-drum J, of the pipe G and the skimmer A, provided with an extension-plate, extended laterally, as shown, at its front edge, substantially as herein shown and described.

2. The Combination, with the settling-drum J, of the pipe G, the skimmer A at the lower end of the same, which skimmer has a flange, B, and the extension plate C, held by bolts on the front edge of the skimmer, and having end flanges, substantially as herein shown and described.

HENRY ESTELLE.

You will observe that my claims cover a METHOD of removing impurities from the water of steam boilers, together with an apparatus for producing that effect, which, since the grant of the original patent have, without warrant, been extensively used and sold by certain imitators of my invention. All parties making, using or vending the apparatus in question, or any apparatus substantially the same in principle and mode of operation, together with all parties using the METHOD claimed, regardless of the construction of the apparatus employed, are **Hereby Notified** that they are infringing my said letters-patent 1877-1883; and that a full accounting for moneys derived from such infringement will be required, and that my rights will be enforced, if necessary, by legal measures.

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1. It is a perfect self-clamping cutter, clamping the paper and cutting at one operation, giving double the speed and saving one-half the work of cutting.

2. The clamp is made in two parts, the regular width being two and a half inches. Half of it may be taken off, allowing the back gage to come within one and one quarter inches of the knife, an invaluable feature for narrow work.

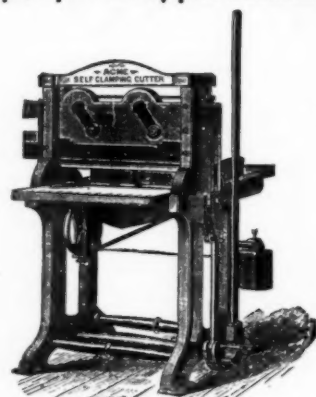
3. The back gage is moved by a metallic band (passing over a wheel) on which is also an indicator giving the exact distance from the edge of knife to back gage. The gage is moved very fast, with ease, and the indicator renders the operation of gaging absolutely certain.

4. A perfect system of side squares.

5. Economical and convenient round cutting sticks, giving 50 cutting surfaces where there is only 8 on other makes.

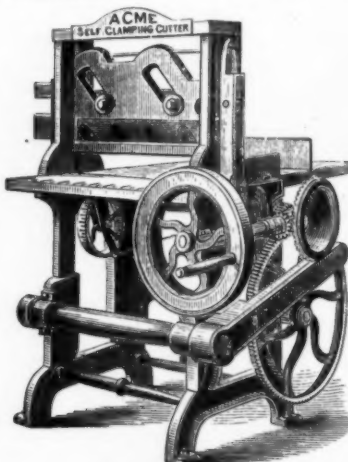
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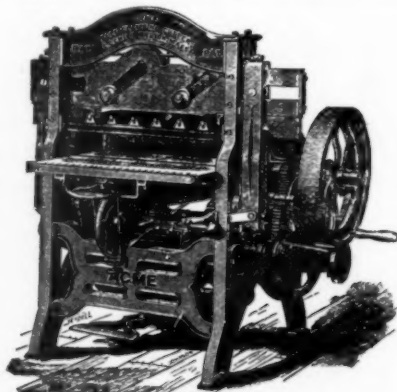
THE LEVER ACME.

Strongly made, gaged with an indicator, has side squares, and is warranted accurate. The lever is very long, giving the greatest power, and is made of wrought iron.



HAND WHEEL ACME.

Specially designed for those who require the heaviest work done, but have no steam power. It will cut any amount of paper that can be put under the clamp with the greatest ease, but is slower than the lever cutter. The balance wheel is in front, at the operator's right hand, and may be operated without change of position.



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This machine is made very strong and heavy. Power is applied at both ends of the knife bar. Designed for the heaviest class of work. Unsurpassed by any first-class cutter made. Can be operated by hand with ease.

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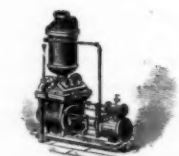
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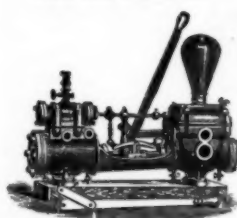
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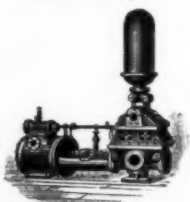
NEW YORK.



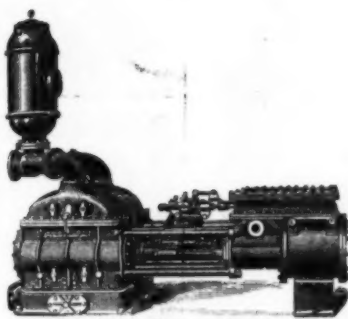
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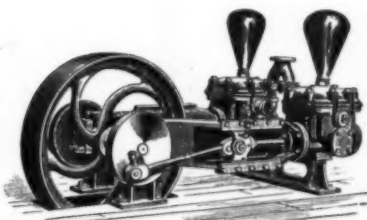
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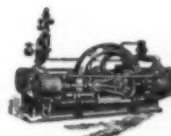
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Yours truly,
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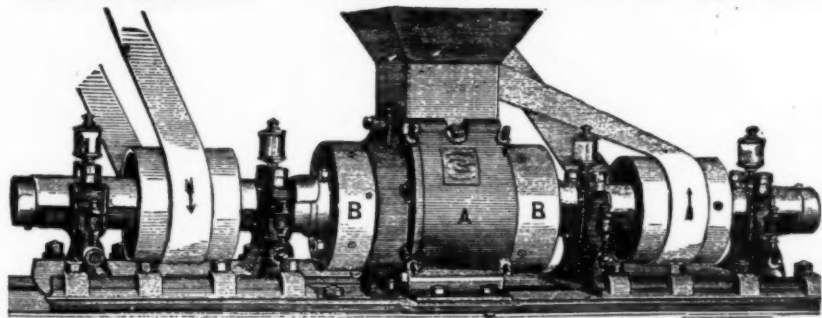
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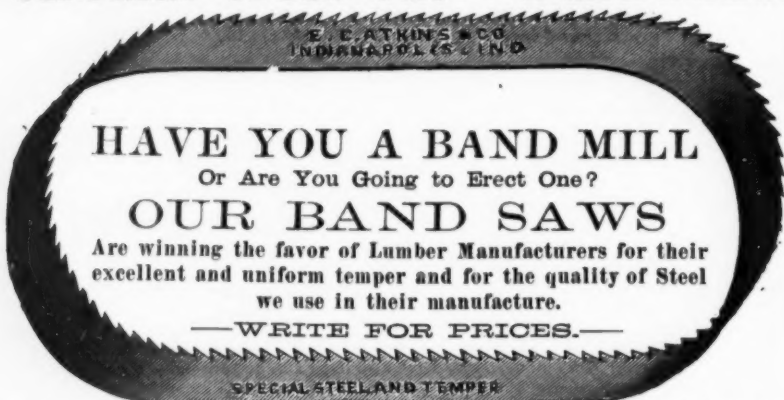
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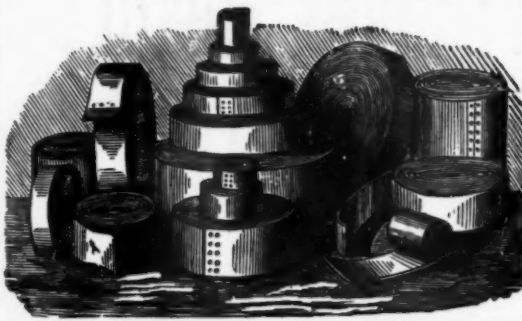
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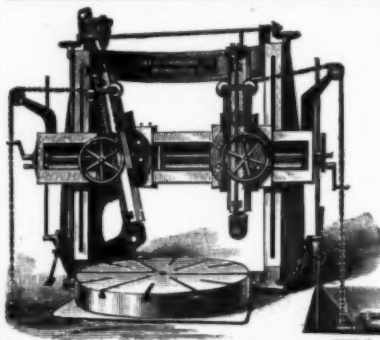
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[From The Inland Architect and Builder, November, 1885.]

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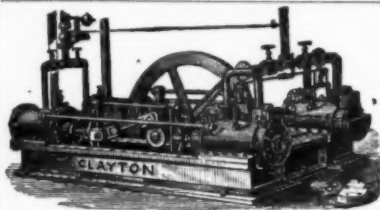
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